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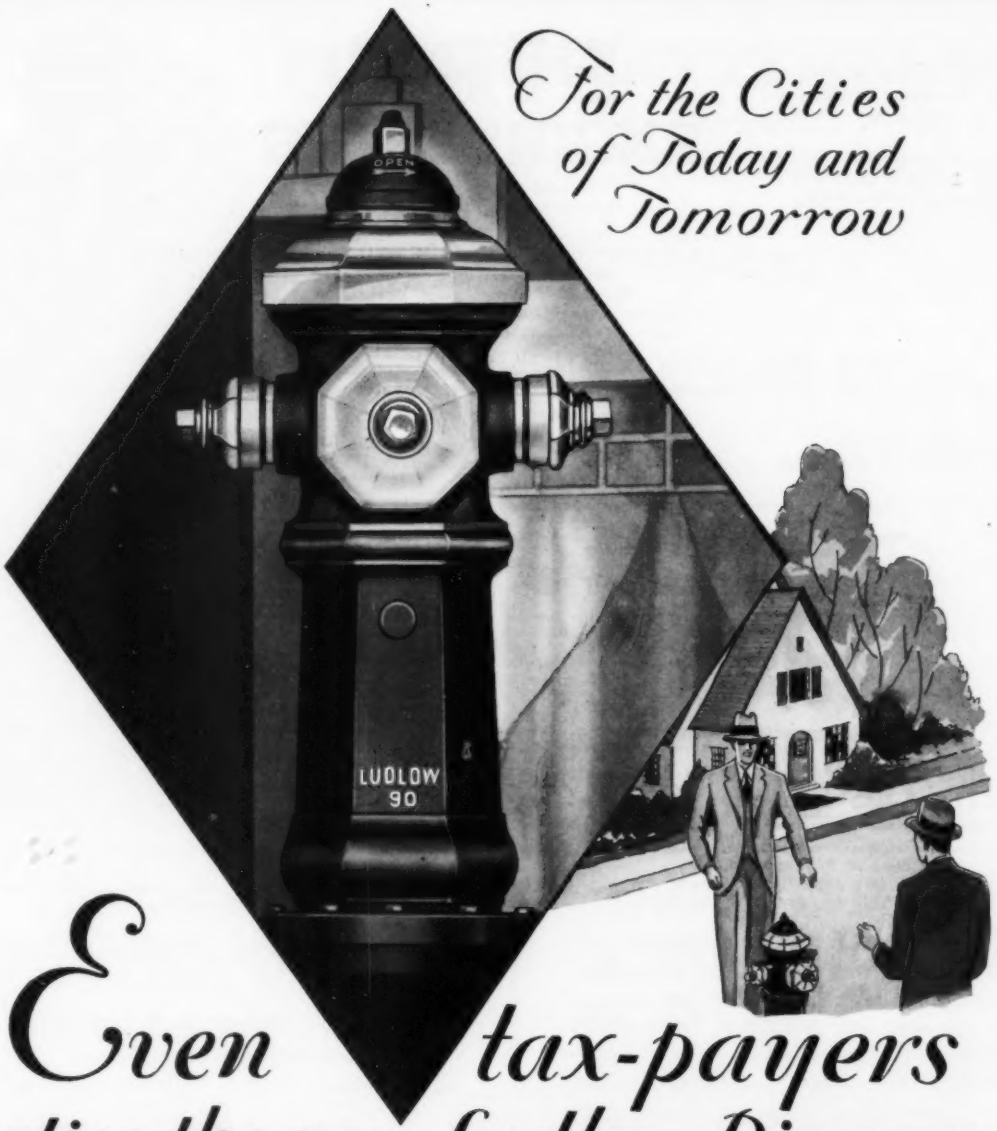

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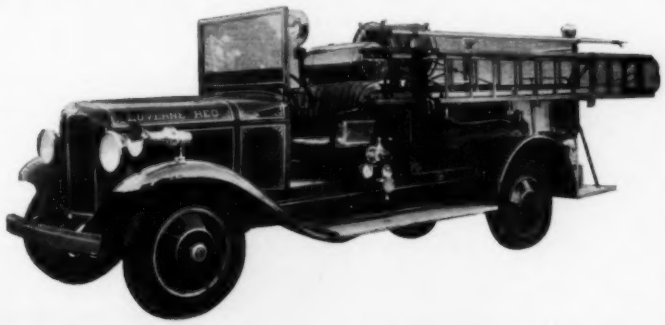

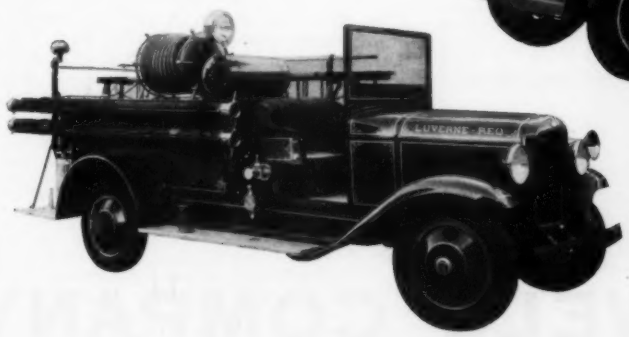

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Yours very truly,

A. Cooper

A. Cooper
CHAIRMAN OF FIRE COM.

STATESVILLE, N. C., offers another fine example of what adequate fire alarm box distribution will do for a fire department. Three years ago when that city installed its first fire alarm system, the officials decided that if they were to receive the full benefit from their investment, an adequate number of fire alarm boxes would have to be installed.

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Examine the fire alarm records of your own city. If the percentage of box alarms is low, it is an indication that you have not a sufficient number of fire alarm boxes. Additional boxes should be installed until you have "A Box A Block" distribution, then as your city grows, a definite number of new boxes should be installed each year to maintain an adequate box distribution. Without that, you cannot maintain a high percentage of box alarms—the safe alarms.

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The Journal of the Fire Protection Profession

VOLUME LXXXIV DECEMBER 9, 1931 NUMBER 25

The Law as to Injuries to Firemen in the Line of Duty

Important Decisions of Higher Courts Interpreting the Law—Right of Way of Fire Apparatus—The Law as to Contributory Negligence

By LEO T. PARKER, Attorney-at-Law

GENERALLY speaking, the ordinary legal rules which regulate the conduct of motor vehicle drivers engaged in the pursuit of their own private business or personal pleasure are not controlling in the case of members of a Fire Department answering an alarm of fire. This law is adopted because while fire is one of the most useful and beneficial of human agencies, yet it is also one of the most destructive, and in case of a building fire, unless prompt and heroic measures are resorted to, it frequently gets beyond control. Especially in large cities its toll of property runs into the millions, and the human lives that are sometimes its prey may be counted by the score.

The Courts have recognized the fact that the individual efforts of the citizens are ineffectual to extinguish fires and have, therefore, provided trained men and special apparatus for the public protection. Moreover, to secure the highest efficiency in the operation of the fire apparatus and the best results in the efforts of the men to preserve life and property, the Fire Department vehicles are given by various city ordinances the right of way, and all other persons are required to yield such right of way so as not to obstruct the rapid passage of men and equipment to a conflagration.

When answering calls to a fire the members of the department are sometimes required to take risks which would be deemed negligence upon the part of the persons engaged in his private business. It is often their duty to act in the face of considerable danger to themselves, and to hesitate or stop would result in disastrous consequences. Frequently haste and fearless performance of duty will avoid widespread disaster, and result in the saving of both life and property.

For these reasons the Courts have held that to give timely warning to all persons of their approach, and secure an uninterrupted passage of men and equipment as they rush along the streets to a fire, gongs or other suitable alarms are constantly sounded, and thus ample notice and opportunity is given to all persons to avoid accident and interference. Therefore, a person, or driver of a motor vehicle, is deemed negligent if he fails to hear the warning signals of an approaching fire truck.

SUBJECTS TREATED IN THIS ARTICLE:

When the Fire Apparatus has Right of Way.
The Case of a Municipal Vehicle Used for Private Errand.
Injuries Sustained by Employee in Dangerous Situation.
When a Municipal Fireman is not Contributorily Negligent.
Injury to Member of Fire Department through Negligence of Captain.
Interpretation of Injury Laws.
How Damages for Injuries are Estimated.
When a Municipal Employee may not be Dismissed.

For instance, in Hartnett vs. Standard Furniture Company, 299 Pac. 408, it was shown that a city ordinance was enacted, as follows:

"Vehicles of the Fire Department, when going to on duty at, or returning from a fire, shall have the right of way over all vehicles and persons. Every operator of a vehicle, upon the approach of the apparatus of the Fire Department, shall immediately proceed to the right hand curb and come to a full stop, standing parallel thereto. At points where fire signals are located, when the alarm sounds or fire signals are given, all operators of vehicles within sight or hearing thereof, shall follow the directions indicated above and shall remain so stopped until the fire signals cease sounding, and then proceed only in the event that no fire apparatus is approaching, except where traffic officers are stationed."

One day a fire alarm was sounded and a fire truck started from the station to the location of the conflagration. As soon as the fire truck started from the station, a number of blocks distant from the scene of the collision, two sirens on the truck commenced to sound. One of the sirens was an automatic siren attached to a flywheel and sounded as long as the engine ran. The other was a hand siren.

Notwithstanding the fact that these sirens were being sounded, the driver of a furniture truck drove directly in the path of the approaching fire truck, resulting in a collision in which the captain of the Fire Department was seriously injured. He filed suit against the furniture company to recover damages.

During the trial nearly all of the witnesses for both sides testified that the siren on the fire truck was sounding as it approached the intersection. Some of the witnesses testified that they heard it a considerable distance. Other witnesses testified that they only heard the siren immediately preceding the entry of the fire truck into the intersection. Some said the sound was loud and clear; others that the sound was faint. All of the witnesses testified that apparently the driver and helper on the furniture truck did not hear the siren and entered the intersection unconscious of its presence.

It is interesting to observe that the higher Court held the captain of the Fire Department entitled to recover heavy damages from the furniture company, and said:

"It is not at all improbable that the driver of the furni-

ture truck did not hear the fire siren. The noise of his truck may have drowned the sound of the siren. Others, however, heard the siren, heeded the warning, and parked their cars as required by the city ordinance. Appellant's driver did not hear, neither did he see. He testified that when he arrived at the intersection he looked to the east and to the west and did not see the fire truck. It is inconceivable that had he looked he would not have seen that truck. . . . Accepting as true the testimony of appellant's driver that he looked and failed to see the approaching fire truck, the driver was clearly negligent. There is no excuse for his failure to see the fire truck. We may disregard his failure to hear the siren, refrain from considering his infraction of the provision of the ordinance as to the rate of speed one may travel across an intersection, but we cannot brush aside his testimony that he looked and failed to see a fire truck which could not have been more than a few seconds' time distant from the intersection. . . . Persons in control of fire apparatus belonging to the city Fire Department are not 'required to observe the ordinary speed limit fixed by ordinance for vehicles traveling upon the public streets.'"

Municipal Vehicle Used For Private Errand

Usually state and city laws are valid and enforceable which require privately owned vehicles to give right of way to Fire and Police Department automobiles being operated for official purposes. However, when a public vehicle is being driven for the personal business of the driver he is expected to use the same degree of care as the drivers of privately owned cars. So held a higher Court in the recent case of Swift & Co. vs. Payne, 134 So. 626.

The facts of this case are that a state law provides:

"The driver of a vehicle upon a highway shall yield the right of way to Police and Fire Department vehicles when the latter are operated upon official business and the drivers thereof sound audible signal by bell, siren or exhaust whistle. . . ."

A member of a municipal department while driving a vehicle to his home to obtain dinner negligently collided with a motor-truck. The municipal employe sued the owner of the truck for damages on the ground that its driver should have given him the right of way.

It is interesting to observe that the lower Court held the owner of the truck not liable and the higher Court upheld this verdict, saying:

"It will be conceded that plaintiff was not bound to observe the speed law if any emergency called for greater speed in the performance of his duty. . . . It will be noted upon consideration of the statute and the evidence . . . plaintiff was not performing any official duty requiring unusual speed nor was he relieved of any duty of due care which would have rested upon a private citizen in the same situation."

Injuries Sustained by Employe in Dangerous Situation

It is settled law that an injured laborer may not recover damages if he volunteered to incur an apparent danger, although, of course, he may be entitled to compensation.

On the other hand, an employer and city officials, are bound to use care to avoid emergencies likely to expose employes to danger. In other words, the employer may not carelessly create a situation of emergency or unusual danger, although the contract of employment requires the laborer to expose himself to similar hazards. While the employer's breach of legal duty may not entitle the employe to disobey orders, yet it does give him the right to cancel the contract of service, and if the employe realizes the danger and continues in the employment he is not entitled to recover damages for an injury.

For example, in the late case of Clairmont vs. Cilley, 153 Atl. 465, it was disclosed that a truck stalled on a hill. The brakes were not strong enough to hold the truck and a superior called to an employe to put a stone under the rear wheel. While the employe was in the act of placing the stone under the wheel the truck started rearwardly and ran over his hand causing severe injuries for which he sued to recover damages.

Although the lower Court held the employe entitled to damages, the higher Court reversed this decision, and said:

"Owing the service, he (employe) is not a volunteer, and his assumption of risk is imposed, not because of nonrelationship with his employer, but as an incident of the relationship. . . . The sense of duty to obey and the stress of emergency may so outweigh and displace other thought as to make its requirement arbitrary in taking action. . . . The fact that the servant is acting under direct orders of the master is not enough to excuse him from making a choice and assuming the risk if he continues his work."

Municipal Fireman Not Contributorily Negligent

While it is true that ordinarily a private employe or laborer is not entitled to recover damages for an injury, where it is shown that he was contributorily negligent and knowingly placed himself in a position of danger, yet various Courts have held that this rule is not applicable to firemen, policemen or other municipal employes whose regular duties require that they assume dangerous duties.

For illustration, in Hughes vs. English, 152 Atl. 473, it was shown that a woman attempted to drive across a street and collided with a truck to which a traffic officer had given the right of way. The result was that the truck was thrown out of its course and struck the officer causing injuries for which suit was filed against the woman to recover damages.

The counsel for the woman contended that the officer was not entitled to a recovery because he had knowingly placed himself in a dangerous position. However, the higher Court held the officer entitled to receive $7,500 as compensation for the injury, stating the following important law:

"The officer was in the lawful discharge of his duty, about to relieve a brother officer. He was necessarily in the body of the street for that purpose. He could hardly be supposed to anticipate that the defendant would drive her car against the traffic directions and collide with another vehicle and thereby cause injury to one in his situation. . . . Our examination of the proofs convinces us that the verdict was not against the weight of the evidence, and that the damages were not excessive."

Captain Injures Member of Fire Department

As previously stated all persons irrespective of their official position are duty bound to exercise care to prevent injury to all other persons. This rule of the law is applicable with respect to officials of Fire Departments and other persons who through negligence cause injury to innocent and careful persons.

The latest higher Court case involving this important point of the law is Vandell vs. Sanders, 155 Atl. 193. The facts of this case are that the captain of a municipal Fire Department responded to an alarm of fire. While proceeding to the scene of the trouble in his own private automobile the captain overtook a member of the Fire Department and invited him to ride. The latter accordingly stepped onto the left hand running board of the machine and reaching across the body of the car held on to the doors on the opposite side. In this position he rode in safety almost to the scene of the fire. At the last intersection of streets which it was necessary to traverse the captain slowed down and the other fireman shifted his position in order to ascertain the exact location of the fire, so that he then stood on the running board holding on to the two doors on the left hand side of the car. The captain made a sharp turn to the right as result of which the fireman was thrown to the ground and injured.

The injured fireman sued the captain to recover damages on the grounds that the captain was driving at an unlawful speed, particularly in view of a state law which fixes speed limits of 20 miles an hour on any highway in a business district, and that the captain's car was not a part of the fire apparatus of the city and he had no greater rights as to speed than any other individual.

(*Continued on page* 945)

Bridgeport Firemen Help Santa Claus

Members of Engine Company No. 6, Bridgeport, Conn., Fire Department, have started to repair the old and discarded toys so that the playthings can be distributed to the poorer children so that they, too, can have a merry Christmas.

—THOMAS F. MAGNER.

Fighting Fires which Involve Chemicals

By LIONEL K. ARNOLD,

Assistant Chemical Engineer, Engineering Experiment Station, and

LINDON J. MURPHY,

Municipal Engineer, Engineering Extension Service, Iowa State College

Fire in a Chemical Establishment

Emphasizing the severe smoke conditions apt to be encountered in such fires.

THE fireman's job is becoming increasingly difficult with the growing complexity of modern fire hazards. Chemicals in every form are coming into common use. The fireman is now called upon to combat hazards which were unknown to the old-time fire-fighters. Large quantities of combustible, explosive and even deadly chemicals are being shipped daily. They are stored and used in almost every type of occupancy.

At any fire the fireman may expect to find one or more chemical hazards involved. To safeguard his own life and to properly control the fire he must understand the nature of the chemical and its possible hazard. He must know when to flood with water and when the use of water may be dangerous. He must know which chemicals are apt to explode and under what conditions. He must know what chemicals give off poisonous vapors and how to combat them. In short, the modern fireman in self defense must study the chemicals in common use all about him which may be involved in a fire.

Why Chemicals are Hazardous

All fires are hazardous and difficult to extinguish after they have gotten a good start. Chemical fires are especially dangerous because of the violence with which the chemicals may react and the possible hazard to life.

By chemical fires popular usage has come to refer to fires in those solids, liquids, or gases whose chemical reactions under high temperatures are violent or productive of compounds dangerous to life. This distinction is made in defining chemical fires, inasmuch as all fires are really chemical in nature, involving combustion and decomposition.

Different chemicals may react in vastly different ways under the same fire exposure. The combustion of many chemicals results in the formation of fumes which are poisonous to breathe. Some chemicals, such as powdered aluminum, lime, sodium peroxide, and zinc dust, upon being wetted generate sufficient heat to ignite combustible matter. Some, as white phosphorus, burst into flame upon contact with air; this chemical may even explode and scatter, causing new fires and bad burns on firemen. Other chemicals, like concentrated nitric acid, sodium chlorate, and potassium permanganate, upon contact with organic or combustible matter, generate sufficient heat to cause fire. Others ignite by friction, concussion or percussion. Among these are chlorates of barium, potassium, sodium and strontium. A few chemicals under heat generate explosive vapors. Many contain oxygen and promote rapid burning of nearby combustible matter.

Fires Involving Chemicals

Drug Store Fires

A drug store is not considered a special hazard as the quantity of dangerous chemicals kept in stock is usually small. There are, however, notable exceptions, such as the 1931 Spencer conflagration which originated in a drug store containing a large stock of fireworks and miscellaneous combustible material. At this fire the smoke fumes and flames spread so quickly as to seriously endanger the lives of the clerks in escaping from the building.

Danger points in a drug store are the basement, where bulk storage is held, and the rear of the prescription counter, where small quantities of miscellaneous chemicals are kept. Drug stores in small towns and outlying sections may have much of the character of general stores, with chemicals and combustibles scattered over the building in bottles, boxes, and on shelves.

Chemicals which may be present in small quantities on the main floor and in larger quantities in the basement are: nitrates; chlorates; sodium peroxide; metallic sodium or potassium; anodyne; hydrochloric acid; sulphuric acid; picric acid; carbon disulphide; ether; alcohol; phosphorus; collodion; amylacetate; acetone; benzol; nitrobenzol; benzine; naphtha; and gasoline. Paints and oils are also included in the stock of many drug stores. Small refrigeration plants are common where a fountain is maintained.

A drug store fire should be handled the same as any other occupancy, with the precaution that care be exercised in the use of heavy streams where they might sweep glass containers with chemicals off the shelves. Water must be used to cool

For the accompanying article FIRE ENGINEERING is indebted to the Official Publication of the Iowa State College of Agriculture and Mechanic Arts, it being comprised in Bulletin No. 9, Engineering Extension Service. In introducing the article, the Authors say:

"Firemen are interested in chemical fire hazards. They know that chemicals may be encountered in any fire reactions of which may endanger life and property. Many of these hazards have been explained by Dr. O. R. Sweeney, Head of the Chemical Engineering Department of Iowa State College, in lectures during the Firemen's Short Courses which have been held each year at the college. A large number of requests have come from Iowa firemen for further authoritative reference data in this field. It is with the thought of analyzing the different chemical hazards and of explaining their proper handling in a fire that this series have been prepared.

"The cooperation and assistance of a number of interested leaders is gratefully acknowledged. An important part of the material on chemicals and their action has been gleaned from Dr. Sweeney's lecture notes. Much of the practical information on the fighting of chemical fires has been supplied by Harry J. Corcoran, Chief Engineer of the Iowa Insurance Service Bureau, and Capt. E. V. Lindquist of the Des Moines Fire Department. Appreciation is also expressed for the constructive suggestions of a number of others, including Will Burnett, Chief of the Des Moines Fire Department, D. H. Shire, Chief of the Mason City Fire Department, and H. J. Callahan, Chief of the Fort Dodge Fire Department."

the burning material, but small streams will be advantageous in keeping the water damage low and in minimizing the mixing of chemicals. Where fumes from chemicals are evident a fire stream in the form of spray may be used to condense the vapors. For the safety of the fireman gas masks should always be used where chemical fumes are present. With the small amounts of chemicals usually kept in retail drug stores, any acid or other chemicals released during the fire can be easily diluted beyond the danger point by an ordinary fire stream.

Wholesale Drug Warehouse and Chemical Laboratory Fires

Wholesale drug warehouses may contain in quantity any or all of the chemicals found in retail drug stores. While these stocks are in quantity sufficient to constitute a serious hazard, the more dangerous are usually kept in fireproof vaults. They are also separated so as to minimize any danger of their accidental contact with each other.

Among all of the chemicals previously listed a few are of particular hazard. Those dangerous to firemen which may be found in wholesale drug warehouses and chemical laboratories are: hydrochloric acid, hydrocyanic (prussic) acid, picric acid, sulphuric acid (oil of vitriol), phosphorus, bromine, and chlorine.

In fighting a drug warehouse fire several suggestions may be helpful. The building should be thoroughly ventilated to carry off any poisonous or explosive fumes. Water should be used, carefully confining streams of moderate size to burning materials only. All firemen should be instructed to keep away from spilled liquid on the floor as it might be concentrated acid. Fire streams should be kept away from powdered materials as some chemicals in this form increase the intensity of the fire upon being wetted. Properly tested gas masks or helmets should be worn by all firemen entering rooms where poisonous fumes are suspected.

Hardware Store Fires

A hardware store seldom presents a serious fire hazard due to the chemicals carried in stock. Paints, lacquers, oils, calcium carbide, fixed ammunition, dynamite, blasting powder and caps are the chemicals of concern from the standpoint of fire. Most of these are handled in small or moderate-sized sealed containers and with the exception of the carbide, ammunition, and blasting supplies, there is little danger of an explosion, as the other chemicals mentioned burn rather than explode after the container is ruptured.

Danger points in a hardware fire are the basement and rear stock room, with the stores of calcium carbide, fixed ammunition, dynamite, blasting powder and caps of particular hazard wherever they may be located. A great many stores keep these latter supplies in a steel vault outside the building. The heavy loading on the floors presents of itself a serious hazard in time of fire due to the danger of collapse.

The procedure in handling hardware store fires is simple. First, ventilate to remove smoke and fumes. Then use water in quantity to keep containers cool and thus prevent rupture and combustion. Foam extinguishers are most effective on fires in paints. Where foam is not available blow out the fire with a strong fire stream. Fire in fixed ammunition may often be checked by a heavy stream of water. If the store of powder and caps is not on fire it should also be kept cool with a fire stream. Firemen must be alert to the danger of a flash fire from gases accumulating in ruptured containers, empty or partly filled tanks, and barrels. Such gases may explode while spilled liquids will only burn. Oils and lacquers will float on water left in the building, and may be the source of other flash fires.

Fires Involving Refrigeration Plants

On fire calls to grocery stores, meat markets, soda fountains, cafes, ice cream manufacturing plants, creameries and other similar occupancies the most important chemical hazards are the refrigeration systems. If involved in the fire these may be a distinct hazard to life.

Most of the larger commercial refrigeration plants use ammonia although several other refrigerants are in common use. Each has its special characteristics which make the fighting of fire in and about the refrigerator difficult and even dangerous. Any of these common refrigerants in too great a concentration will reduce the oxygen content of the air below the point where human life can be sustained. With the exception of carbon dioxide they group themselves into two general classes: those which are irritants, toxic or anesthetical, and those that are readily burnable. Some have both characteristics.

Refrigerating gases and their action in a fire are as follows:

Ammonia: Explosive and expands rapidly with heat.
Carbon Dioxide: Expands rapidly with heat.
Ethane (a product of petroleum): It is explosive.
Propane (a product of petroleum): It is explosive.
Sulphur Dioxide: Strong fumes as from a sulphur candle.
Methyl Chloride (derived from wood alcohol): It is explosive.
Ethyl Chloride (derived from wood alcohol): It is explosive.
Iso-butane: It is inflammable and explosive.
Butane: It is inflammable and explosive.
Dichloromethane (derived from petroleum and chlorine): It is explosive.
Dichloroethylene (derived from petroleum and chlorine): It is explosive.
Trichloroethylene (derived from petroleum and chlorine): It is explosive.

Fig. 1—A Typical Group of Hazardous Chemicals in a Laboratory

Ammonia is used in "Electrolux" and "Lipman" refrigerators, as well as in a number of large commercial systems.

Ethyl chloride is used by "Hydrelectric," "Holmes," and "Iroquois" refrigerators.

Methyl chloride is used in "Servel," "Absopure," "Savage," "Copeland," "Iceberg," "Whitehead," "Ice-O-Matic," "Kelvinator," "Universal," and many other smaller makes of refrigerators.

Iso-butane is also used by "Copeland."

Sulphur Dioxide is used by "Frigidaire," "Kelvinator," "General Electric," "Westinghouse," "Zero Zone," "Cold Spot," "Norge," "Chilrite," "Cavalier," "Trupar," "Universal," "Wayne," "Electrocold," "Quick Freeze," "Isko," "M. & E.," "Star," "Leonard," "Bohn," "Champion," "Wurlitzer," "Majestic," and "Mayflower."

The dangers encountered in fighting a well advanced fire in a building with an ammonia cold storage plant are: (1) the presence of ammonia in quantities due to leaking pipes and tanks; (2) the possibility of ammonia tanks bursting under high pressure created by heat; and (3) the possibility of explosion of ammonia fumes.

In the strategy of fighting such a fire, thorough ventilation is very important. Tanks, piping and steel cylinders containing ammonia should be wet down and kept cool. Keep

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The Volunteer Fire Department

By N. N. WOLPERT,
Assistant Editor, FIRE ENGINEERING

A Series of Articles on Volunteer Fire Department Administration and Operation.

Fire Department Tools and Their Use

This article, the fifteenth of a series, describes some of the common tools that are found in the fire stations or halls of volunteer Fire Departments, and then shows how these tools may be used to simplify Fire Department operations. Because of the large number of tools that are to be described, this subject will be continued in the next issue.

WALK around the fire apparatus in your station and you will notice many tools and appliances mounted on the running board or other convenient places. The various tools and appliances have some particular use and were furnished by the manufacturers of the apparatus when the unit was delivered, because of the need for such equipment in the more common tasks.

All these tools are of no avail if the men are not trained in their use. The men should be drilled in the many ways in which the tool may be used and also in the danger from its misuse. It is as important to show the destructive side as well as the constructive side so that the men will realize the importance of the implement that has been provided.

Of course besides the common tools there are special appliances such as the Bresnan distributor, or special nozzles that are not furnished with the equipment.

But first it is well to master the more common tools such as found on the ladder truck and the pumper.

Use of the Flat Head Axe

The most common of all tools is the flat head axe. In the hands of an inexperienced or improperly trained fireman or volunteer it is a most destructive appliance, and more harm than good can follow.

The axe is a good tool for opening doors, removing iron gratings, opening iron shutters, forcing out pins from hinges, making openings for cellar nozzles, for ventilating and for opening windows.

To open a single hinged door, the blade of the axe should be forced in between the jamb and the door, either just above or below the lock. When the blade has been pushed in, the handle of the axe should be worked to the side away from the door so as to spring the door sufficiently to permit the lock to slip past the catch. In this way the door can be opened without any serious damage to the door.

Double doors, as for example, the entrance to a store, may have glass panels. Care must be exercised so that the glass is not broken as very often the glass is beveled and etched.

Where there are double doors, one door is likely to be bolted to the frame at both the top and bottom so as to be fixed while the other door operates as a single door. In operating on such a door, it is necessary to note which way the doors swing. If they swing inward, then there is apt to be a weather strip attached to one of the doors on the outside so that the crack between the two doors will be covered. Before the axe can be used to force the door open, the weather strip must be removed. This can be taken off in the same manner that one would remove a piece of moulding. When the doors open outward, the strip described is usually on the inside of the door, although there are cases where the strip is not on the fixed door but on the door that is commonly used. In opening a double door, the blade of the axe is wedged in between the two doors and the doors are worked apart. A catch or lock will usually give way without any serious damage to the door. If the axe is properly used, even if the door has glass panels, the glass will not be cracked.

Where the door is so hung that the hinges are on the side of the door where department operations are carried on, the door may be opened by removing the pins from the hinges, and after the pins have been taken out of the hinges, the door can be lifted out of the door frame. In removing a pin from the hinge, make sure that there is not a nut on the lower end of the pin. Where there is no nut on the pin, the blade of the axe can be forced between the head of the pin and the top of the hinge, and the axe worked downward so that the pin will be forced up out of the hinge. It is possible that the pin may stick. Where this is the case, force another axe beneath the door and the sill so that the strain on the hinge will be eased while the pin is being removed.

Removing Wood Panels

In instances where it is mandatory that quick entrance be gained, it may be necessary to remove a panel from the door. This can be done by removing the bead or moulding on the inside of the panel and then prying out the panel.

In the elaborate homes of which each village has a few, the doors are often made of matched wood so that if a panel is broken, unnecessary loss results. If the bead cannot be removed from around the panel, then the only thing left to do is to drive the panel in. However, in doing this, use the flat side of the axe, not the head, so that the force of the blow will be distributed over a wide area and the panel may be knocked in without splitting the wood.

There are various types of windows found in the home. There may be the French or dormer type which are installed with hinges the same as a door, or the windows may be hung from a pulley and be counterbalanced by sash weights. Such windows move up and down in a vertical line.

In opening windows of the sash weight type, the axe should be inserted beneath the sash at the bottom and the trim pried upward. If the windows are fastened with a lock or catch at the center of the windows when the windows are closed, the screws holding these catches or locks can be easily pulled out without shattering the glass, provided the axe is inserted at the center of the sash, at the lower sill. If, on the other hand, the sash is held fast by spring pins which set in the side of the framework, these will be bent and pulled out when the sash is pried upward.

Windows of this type can be taken out by removing the trip or strip of wood which locks the windows in position on the outside. When this strip of wood is removed, the sash cord on either side of the window is cut so that the window sash is free to be lifted out.

Opening Swinging or Dormer Windows

Swinging windows, where the hinges are on top, may be opened by inserting the axe on the bottom to pry the window open. The blade of the axe should be placed near the center of the sash.

For French or dormer windows where the windows are hung with hinges placed on the side, the axe is inserted near the center of the vertical sashes and pried so that one of the sashes will be forced either in or out. The axe should be placed near the center of the vertical sash and pried so that the window which is not locked to the frame by catches similar to a double door, will be sprung open. In most cases such windows open inward and where this is the case, the axe should be inserted at the base so as to force the windows inward at the base.

Then there is the case of sliding doors. Single sliding doors are harder to open than double sliding doors for their fastening is apt to be more secure. Such doors are usually built heavier than the double doors and they are generally intended for heavier service. The quickest way is to remove a panel so that a man can get inside to open the fastening. Single sliding doors in industrial establishments, storehouses, and so forth are nearly always locked on the outside by a padlock.

Double sliding doors, when found in mercantile and in-

dustrial establishments, are locked by means of a catch, hook, padlock and hasp, or by a hasp and a pin. To open these doors, drive the blade of an axe in just below the fastening, and unhook or break the fastening with another axe, or other cutting tool.

Members of a truck company commonly use the axe for opening up for ventilation. Where the roof is covered with tin, the tin must first be removed over the area through which the opening is to be made. Cut up the tin with a tin cutter or if the tin cutter is not available, a six-foot hook can be used. As soon as the roof is exposed, the axe is used for cutting the roof boards.

Other Uses for the Axe

The axe is used to make openings in floors for inserting cellar pipes and distributors. A great deal of work will be saved in making these openings if the floor is cut alongside the beam. A square section of the flooring should be cut rather than a ragged hole, for the repairing job is then simplified. In cutting a floor where there is apt to be a plastered ceiling below, as soon as a section of the flooring has been cut away, the plaster ceiling below can be forced through. This is done to avoid disturbing gas pipes or electric wiring.

After a fire has been extinguished, it is necessary to open up a window frame for inspection to see if fire is slowly working its way inside the walls. To open up a window frame for inspection after a fire, it is only necessary to pry off the inside facing. It may be necessary to start the axe blade in under the facing by using another axe. Once the blade has been inserted, however, it is easy to pry open the frame. As soon as the facing is off, the entire interior of the frame is exposed to view and any subsequent fire is readily killed.

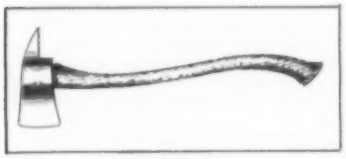
Cartoonists delight in showing firemen smashing countless numbers of windows for the fire-fighter's amusement. Just imagine how delighted these illustrators would be if they know the firemen were instructed in breaking windows.

But where it is necessary to shatter a pane of glass, there is a wrong way which is dangerous to the fireman, and there is a correct method. In breaking a window, stand to one side, and strike the glass with the flat side of the axe. Most of the glass will then follow the axe inward. Warn men working below that a pane of glass is to be shattered on an upper floor.

In breaking a large pane of glass, never stand directly in front of the window, for in such a case, there is a possibility that the glass will go sliding up the axe handle, and the sharp edges of the glass may cut the hands of the man operating the axe.

The Pick Axe

Besides the flathead axe, the uses of which have been described, there is the pick axe. This tool is not used as frequently as the flathead axe, but it has an advantage that the pick on the back of the head may be used for prying up flooring and similar operations. Because of the pick, it is impossible that it be driven in an opening by another axe, as is often done with the flat head axe.



Pick Axe

Uses for the Crow Bar

The crow bar in Fire Department work serves about the same purpose as it does in house wrecking operations. It is employed for prying up heavy planking, flooring, moving heavy obstructions, and sometimes for opening heavy doors. A crow bar with a curved blade is very useful for moving freight cars short distances. In this operation, the point of the blade is jammed underneath the wheel of the car and the bar forced downward. This causes the car to move up a couple of inches. By working the bar upward and downward, the car may be moved a little bit at a time, although at a slow rate of speed, until the car reaches the desired point.

The Six-Foot Hook or Pike Pole

The six-foot hook or pike pole is one of the most useful of all tools carried by the ladder company. It can serve in instances where other tools fail, and it has a number of applications.

It is most commonly used to remove lath and plaster. Ceilings and partitions can readily be torn away by the use of the six-foot hook while the length of the pole makes it possible for the operator to stand to one side and not submit himself to a shower of debris.

The six-foot hook is particularly effective in pulling down metal ceilings. The point is driven through the ceiling, with the hook pointing downward and the operator standing well away from beneath the portion ot the tin to be torn down. When removing the tin from the ceiling with the hook, if the tin holds, the hook part can be used as a fulcrum for prying the tin free from the ceiling.

This tool is also satisfactory for prying up a tin roof. Where the tin holds too tightly to be pulled up readily with the hook, then the hook part of the tool can be used as a fulcrum and the tin pried up with the point. In using the six-foot hook to pry up a tin roof, it is first necessary to cut the tin in strips of not too great width so that each section can be removed without unnecessary labor.

The hook is also effective for prying up floor boards, after cutting. Of course, it does not possess the strength to

Six-Foot Hook

pry up heavy planks, but it is suitable for light flooring or roof boards after they have been cut in short lengths.

It is also used for tearing down debris in overhauling after a fire. It can quickly remove objects which could not be taken with the bare hand. Occasionally a six-foot hook is used as a brace for a nozzle when a nozzle holder is not available. For this work, it is placed across a window on the inside or across a doorway and then a nozzle is tied to it. The back pressure on the nozzle holds the hook firmly in place and makes it easy to control the line.

For forcing ceilings below cocklofts, the six-foot hook is very efficient, because of its length. In ventilating at a fire and after the coverings have been removed from the roof, it may be found that there is no evidence of smoke or heat though the fire is burning on the top floor of the building. It is probable that the ceiling below is unopened and requires the use of a six-foot hook to pull the ceiling down to provide a vent for the smoke and gases to escape.

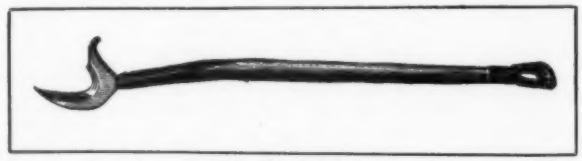
The hook can be used for ventilating windows on the top floor of a building. It can be applied in forcing the upper windows down or for pulling the inner windows up. In this operation, the man employing the hook lies face downward on the roof and he reaches over the cornice and applies the hook to the windows below.

In addition to the six-foot hook, there are also, ten, sixteen and twenty-foot hooks built precisely on the same lines and used in cases where longer reach and added strength are required. What has been said of the six-foot hook in most cases applies directly to these other sizes.

The Tin Roof Cutter

The tin roof cutter is used to remove or cut the tin on flat roofs. Ordinarily the tin is placed over the roof. On top of the tin there is usually a layer of tar and gravel. Before using the tin roof cutter it is necessary to scrape away the tar and gravel with a shovel.

Three types of roof cutters are commonly used. One employs a rotary cutter which rotates when the tool is drawn through the tin. To operate, the point of the tool is driven



Tin Roof Cutter

into the tin roof and the handle is raised up sufficiently to get the tool point beneath the tin. It is then easy to draw the tool along and the cutter does the work.

Another type has a sharp edge for cutting similar to a can opener. The point of the tool is driven into the tin, and the tin is pried up sufficiently to get the tool point beneath the tin. Then the cutter is forced along in front

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THE ROUND TABLE

For Practical Discussion of Current Fire Department and Fire Management Problems

THAWING FROZEN HYDRANTS

COLD weather has arrived. Even though the Fire Department or the ones in charge of the water system have taken the proper precautions to have the hydrants in good operating condition, some hydrants are apt to be found frozen before the winter season ends.

Fire Department officials realize the danger that results from frozen hydrants and they try to have equipment necessary to correct conditions.

In the box on this page is the problem that is treated in this issue. In the box on the following page is the question that will be treated in the next issue. Should you have some comments that you would like to add to the next discussion, you are invited to write to the "Round Table Editor," FIRE ENGINEERING, 24 West 40th Street, New York, N. Y.

HERE IS THE PROBLEM

Are you troubled by frozen hydrants?

When you find a hydrant frozen, what steps do you take to put it back in good operating condition?

What equipment do you have for thawing hydrants?

Have you found it satisfactory?

Discussion of the Question

Through close cooperation with the Water Department or Water Company, the number of cases of frozen hydrants has been decreased. However, either the ones in charge of the water system or the Fire Department has some device for thawing out hydrants which have become frozen. The replies that have been received follow:

H. J. Monahan, Chief, Berlin, N. H.: This department has had trouble in the past with frozen hydrants but this trouble is being eliminated by the Water Department. Frost cases are put on each hydrant and during the winter months the valves are kept salted and are carefully drained after use and salted again.

A truck from the Water Department responds to every alarm and any repairs needed to hydrants are made at once. The Fire Department is equipped with a "Ross Thawing Device" which we have used on different occasions and find that we can thaw a frozen valve in less than three minutes.

W. Boyer, Lieutenant, Ironwood, Mich.: In freezing weather we have an experienced man who does nothing else but takes care of hydrants. He uses a string with a small weight on it to find out if there is any water in the barrel. If there is, it is pumped dry. After each fire every hydrant used is tested for frost and water. We have 366 hydrants and have never yet found a frozen one at a fire, although we had as many as 140 frozen hydrants in one winter. We use the American-LaFrance Thawing Machine and then put a little salt in the hydrant. We have found this method to be most satisfactory.

B. J. Houston, Chief, Cincinnati, Ohio: We are not troubled very much with frozen hydrants, as we have them inspected twice a day during the freezing weather.

We thaw frozen hydrants out with hot water and salt or steam vapor from boiler on motor of the pumper. It has proven very satisfactory.

John Lahm, Chief, Madison, Wis.: We are not bothered with frozen hydrants as our Water Department maintains a man who at any time night or day when a hydrant is used, goes to the hydrant, inspects and drains the hydrant, and leaves it in safe condition. The Water Department has a regular hydrant inspector who inspects all hydrants and keeps them in working order. At any time that we use a hydrant it is reported at once to the Water Department and they take care of it.

C. H. Russell, Chief, Kalamazoo, Mich.: We are not bothered with frozen hydrants. We haven't had any trouble in twenty years. Our Water Department has a device to take care of that trouble.

Charles Huber, Chief, Endicott, N. Y.: We have not been troubled with frozen hydrants for some years past. This is due to the efficiency of our Water Works Department in sending their men to check hydrants every day during the winter. If they find a hydrant that is not up to the standard they at once notify the Fire Department that they are going to take up this hydrant and if beyond repairs, a new one is put in its place. The Fire Department gets wonderful cooperation from our Water Works Department.

We do have a thawing device that we carry on our pumper but have not had a chance to use it on a frozen hydrant. We have tried this device out on other experiments and it does very efficient work. It has a flexible hose that can be coupled to the exhaust on our motor and we find it very satisfactory.

Wm. J. Gates, Chief, Glens Falls, N. Y.: We are quite often bothered with frozen hydrants, as it is not an uncommon thing for the temperature to remain below zero for several days at a time, in this section of the State.

When a hydrant is found that is not in a good operating condition we report it to the Water Department and that department immediately begins working to get it operating again.

We have found out that when a hydrant is slightly frozen or "stuck," tapping the main stem with a wrench, will often loosen it. For thawing, we carry a steam device, manufactured by the American-LaFrance Co. It works on the "super-heated steam" principle. Alcohol is used as the fuel to heat the water. We have found this thawing machine very satisfactory.

E. Ricker, Chief, Biddeford, Me.: The hydrants in this city belong to a privately owned water company, (The Biddeford & Saco Water Company) and the city pays an annual rental per each hydrant. The water company takes care of them. During the last thirteen years, to my knowledge, we have never had a frozen hydrant. This Fire Department has no form of hydrant thawing equipment.

Frank W. Fuller, Chief, Brainerd, Minn.: We have not had trouble with frozen hydrants for a number of years, in fact since our streets have been brought up to grade, making our mains a safe depth below the street, the only time a hydrant would freeze now would be in the event that it was not properly drained.

We would notify the water and light department, in charge of maintenance of the entire water system. If the

hydrant was within reach of a twenty-three hundred volt electric line, their men hook up a transformer, and do the thawing by electricity. If it was not convenient to do this they would use steam supplied from a large boiler which is mounted on wheels and trailed behind a truck. This boiler is also used for thawing corner catch basins when they become frozen during the early spring thaws.

W. G. Green, Chief, Concord, N. H.: We are not bothered with frozen hydrants but we are very careful after using one to see that it drains properly.

Presuming that we use but one or two outlets of a six-way or four-way high pressure hydrant, the caps of the unused outlets must be removed when we "limber up," allowing the water which will collect between the individual valves and the caps, to escape. Otherwise we would have plenty of trouble in winter weather.

We have absolutely nothing to do with the hydrants either high or low except in case of fire or drill.

The two systems are under control of the Water Department.

Chas. H. French, Chief, Manchester, N. H.: We have very few frozen hydrants. We thaw out hydrants when and if found to be frozen and report the occurrence to the Water Department. That department is responsible for the hydrants.

Steam boilers connected to exhaust pipes of pumping engines are used for thawing hydrants. We have found this equipment to be very satisfactory.

Clyde H. Pritchard, Chief, Jackson, Mich.: We are not troubled very much with frozen hydrants. When a hydrant is frozen it is reported by an inspector of our department and we in turn notify the Water Department. The department has a boiler mounted on a truck with which they thaw out the hydrant and this works very successfully. After the hydrant is thawed out and the water does not drain out, it is then dug up and the drip pan is cleaned out. We have a small thawing device on our pumpers which is not very successful.

S. S. Anthony, Supt., Water Dept., Augusta, Maine: We seldom have frozen hydrants at all. During freezing weather every hydrant is visited at least once a week and pumped out if found wet. We have had only one frozen hydrant in at least three years.

When a hydrant is found frozen we pump hot water into it and usually have little trouble in thawing it out in a short time.

The equipment used is the same pump as is used for pumping out the hydrant. We pump hot water from a wooden barrel into the steamer connection of the hydrant.

Howard Wheat, Chief, Port Jervis, N. Y.: We have had but few frozen hydrants and they come from not being shut-off properly. We have the Ross thawing device and I find it to be very satisfactory. When we thaw out a hydrant we use a hand pump and pump the barrel dry. When the hydrant is apt to freeze, we place table salt around it to keep the frost out.

Al Herring, Chief, Murphysboro: Here in Murphysboro we are exceptionally fortunate in the inspection of hydrants, due to the close cooperation afforded us by our Water Company. The company has men who take care of all hydrants and we have not had a frozen hydrant in our city for at least twenty-five years. That is one thing the company watches very closely. If a hydrant is found upon inspection to be full of water, the hydrant is repaired at once. The men are equipped with a little hand pump when inspecting hydrants and if water is found in the hydrant, and the weather will not permit immediate repairs, the water is pumped out and the hydrant is marked and watched until repaired. In other words I have nothing to worry about with regard to the hydrants. The water company in this city have given every possible means of cooperation to our department and a great deal more could be said for the splendid team work of the water and the Fire Department.

John C. Stahlhut, Chief, Fort Wayne, Ind.: We do not have much trouble with frozen hydrants except in extremely cold weather.

When a hydrant is found to be frozen we immediately thaw it out and it is ready for service. This operation takes about one minute. For the purpose of thawing hydrants we use a Ross Thawing device. This device has been found very satisfactory.

Thomas J. Dougherty, Acting Chief, New York, N. Y.: Hydrants would give us a great deal of trouble in cold weather from freezing were it not for the care we take of them.

Each company has a man inspecting hydrants (daily in freezing weather) who uses rock salt, etc., to thaw frozen hydrants. At times we have 100 or more hydrants frozen in a battalion district; we then send out one of the steam engines with a detail of two men who remain on the job until hydrants are in good condition.

Ross Thawing device is used for thawing hydrants but we find that it takes a great deal more time than with the steamer.

While we care for the hydrants, they are not under our supervision. The Department of Water Supply, Gas and Electricity has full control.

James A. Schooley, Chief, Medina, N. Y.: The Medina Fire Department does not have anything to do with the hydrants. The Medina Water Works Department takes care of them and we have only had two hydrants freeze up in the past ten years.

M. J. Fleming, Chief, Albany, N. Y.: The Water Department employs extra men during the cold weather to inspect and care for hydrants and to guard against freezing. To do this work, they employ one man for every ward. When a hydrant is found to be in a frozen condition, the Superintendent of the Water Department is notified. He in turn sends out the regular crew with a steamer, pump, and Ross Thawing device to get the hydrant in service as soon as possible. The extra man who had charge of that district is discharged for this neglect and his entire district is checked up immediately.

The Fire Department has an old steam fire engine that we also use for thawing. The Water Department has a portable steamer and the Ross Thawing device. The system works out satisfactorily, as it is a rare thing to find a frozen hydrant in Albany.

At any time during freezing weather when the Fire Department uses a hydrant, we immediately notify the Water Department. The regular crews are sent out night or day to pump out the hydrant or hydrants used, and to guard against freezing, in case they did not drain properly.

James D. Kailer, Chief, Columbus, Ind.: We have not had any frozen hydrants since December 1918, although January and February, 1919, had many very cold days. At that time we used a traction engine to thaw out hydrants.

Since then the Water Works Department checks up on all fire hydrants before cold weather to see if they drain properly and if not, they are dug up and cleaned out at once.

Otto Hackborth, Chief, Marinette, Wis.: We are not troubled very much with frozen hydrants. When we find a hydrant frozen, we notify the City Water Company, which is a corporation owned utility and is responsible for the the condition of all hydrants at all times. The company has a portable steam outfit which they can move around on their truck. It is very good and quick in thawing frozen hydrants. They also have an electric outfit which they use for smaller jobs and this, too, is very good.

We have a Ross thawing device, but find it rather slow.

W. D. Champion, Ex-Chief, Goshen, Ind.: Some times we

(Continued on page 940)

HERE IS THE PROBLEM FOR THE NEXT ISSUE

What procedure do you follow when you discover that you are hampered by high tension wires at a fire?

What method do you follow when you are faced with a broken overhead wire at a fire?

What suggestions have you for improving the cooperation between the Fire Department and the power company for service at fires?

With the Editor

Commercial Buildings as Residences

A recent fire in a certain structure in New York City listed as a commercial building has emphasized the fact that a number of this type of structure are being used for residential purposes, in violation of the New York State Multiple Dwellings Act, which forbids such occupancy. In the case of the building in question, it was found that some of the studios, of which there were several in the building, had been occupied by the artists as residences for themselves and their families. In fact, previous to the fire, the Tenement House Commissioner had ordered the families to vacate the building, and an order had been obtained by these tenants from a justice of the State Supreme Court, which restrained the official from taking action to prevent such occupancy. The blaze which followed was the third within a year in the structure, and the last one apparently settled the controversy "out of court," as the structure was so badly gutted that it was rendered unfit for occupancy.

This question of the occupancy of commercial or quasi-commercial buildings for residential purposes has been one which long has vexed the Fire Department and Building Department officials of cities. Such structures are not suited to this type of occupancy, and in this respect are particularly hazardous from a fire standpoint. With residential occupancy, there must, of necessity, come the question of the preparation of meals, and this means makeshift arrangements for cooking, with the accompanying danger from fire that such methods entail. Besides this, the individuals constituting tenants of this nature, who, as a rule, would naturally be of a "Bohemian" tendency, are proverbially careless in their housekeeping, which fact would add to the hazards of the situation.

In some of the states and in many cities stringent laws have been passed, forbidding the installation of living quarters or the preparation of meals in any but those designated as residential structures. In nearly every case, where such state laws or local ordinances have been placed upon the statute books, strenuous opposition has developed from interested parties, whose pocketbooks have been touched by such laws. Injunctions like those obtained in the case of the building heretofore referred to have interfered with the action of the proper authorities in enforcing the laws, and have seriously embarrassed them in the work of preventing such hazardous occupancies, through the taking advantage by the litigants of some technicality of the law or some loophole in it, discovered by an astute attorney.

However, by perseverance in carrying the matter to the highest courts, and by causing the defects in such laws and ordinances to be corrected by act of the legislative bodies of the states and cities, the authorities will no doubt be able at last to stamp out this dangerous practice and eventually purge the cities of all cases where commercial buildings are being converted, in contravention of the law, into residences, either temporary or permanent.

When this has been accomplished another source of worry for the Fire Chief will have been removed, and he will be, at least, one step nearer the millennium!

Boston Should be Proud of Its Fire Boat

Fire Commissioner Edward F. McLaughlin and Chief Henry A. Fox, of the Boston Fire Department, are to be congratulated upon the addition of the splendid new fire boat "Matthew J. Boyle" to the fleet that protects the Hub's extensive waterfront. The efficiency of this vessel, which, on her recent trial trip, exceeded all the contract requirements, both as to speed and pumping capacity, is a fine tribute to the foresight, skill, and judgment of Edward E. Williamson, Superintendent of Maintenance of the Boston Fire Department, under whose direction and supervision the plans were drawn and the construction carried out. Mr. Williamson was formerly an engineer in the U. S. Navy and is an expert on marine matters.

Among his ideas which were incorporated in the design of the boat might be mentioned the emergency wrecking booms, by which wrecked automobiles may be hoisted out of the harbor; the steering wheel on the aft deck, which may be utilized in backing out of docks; and the spray curtain to protect the hoseman operating the turret pipe.

Able assistance was given to Mr. Williamson by John D. McDonough, Master in Charge of Marine Service, B. F. D., who was daily at the Lawley shipyard during the building of the vessel and who inspected all material that went into the craft. The Lawley yard, famous as builders of fine yachts, did an especially good job on the fireboat which is a harbor guardian of which the citizens of Boston may well be proud.

A Veteran's Splendid Service

In this issue is announced with regret the retirement from active duty of Chief James J. Mulcahey, who has served so long, so faithfully and so ably as the head of the Yonkers, N. Y., Fire Department. As the first Chief of the paid department of that city, Chief Mulcahey, in rounding out his twenty-five years as its head, has left the impress of his per-

sonality upon it, and he can retire with the satisfaction of leaving behind for his successor an organization well grounded in both discipline and efficiency.

Chief Mulcahey retires at the ripe age of seventy-three years, although he impresses one, by his vigor, to be much younger. His retirement has been brought about by a city ordinance, fixing the compulsory retirement age of members of the Fire Department and other city employees at 64 years.

However, the service of Chief Mulcahey in the Yonkers Department antedates his election as the head of the paid forces by several years. He joined the department in 1876, and was honored by his comrades by election to practically every office including Chief in the volunteer company. He was also appointed by the Mayor of the city, a few months previous to his assuming the office of paid Chief, as a member of the Board of Fire Commissioners. It was while holding this office, that he was induced to become the first paid Chief by this same official.

Chief Mulcahey's services as Secretary of the I. A. F. C. are too well known to the members of the association to need extended comment here. Fortunately the national body can count upon his retention of the office of Secretary-Treasurer, in spite of his retirement from active firemanic work, and so will not lose his valuable aid in the affairs of the association.

Chief Kimball of Salem, Mass., Retires

Chief Howard C. Kimball, of the Salem, Mass., Fire Department, has been retired November 12. In asking to be placed on the retired list the Chief told Mayor George J. Bates that physical incapacity made the step necessary.

Chief Howard S. Kimball

Chief Kimball joined the Salem Fire Department in September 1875; was appointed Assistant Foreman of Engine Company No. 1 in 1881; and became Clerk of Engine Company No. 1 in 1884. In 1892 he was promoted to Foreman of Engine Company No. 1.

He was elected a member of the Board of Fire Engineers in 1895 and served until 1912. In April, 1914, he was appointed Assistant Chief, and on November 24, 1915, was named Chief of Department by Mayor O'Keefe.

Mr. Kimball is one of the best known chiefs in New England and has a host of friends throughout the country who hope that his health may improve in retirement.

He is a member of the Fire Chiefs' Club of Massachusetts, the New England Association of Fire Chiefs, the International Association of Fire Chiefs, and the Massachusetts State Firemen's Association.

Deputy Chief James S. Koen is Acting Chief of the Salem Fire Department at present and has been serving in this capacity for several months during the illness of Chief Kimball.

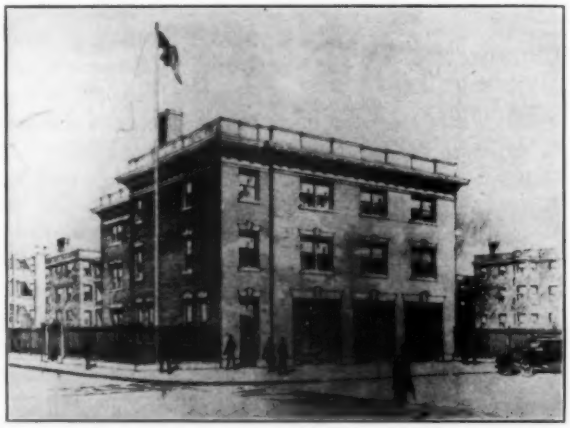
HARRY BELKNAP.

Members of the Indianapolis, Ind., Board of Safety, and the city Fire Department were guests at a house warming to mark the formal opening of the remodeled Engine House 22. The improvements were made by members of the department with material furnished by the city.

South Boston to Have New Fire House

A new fire house of pleasing design is under construction at the corner of East Fourth and K Streets in South Boston, Mass. It is of brick and three stories in height and will provide modern quarters for Engine Company No. 2 and Ladder Company No. 19, of the Boston Fire Department.

The plans were drawn by Harrison H. Atwood, Boston Architect, and the contract was awarded to J. A. Singarella.



Architect's Sketch of South Boston Station

The building is to be completed by June, 1932, at a total cost of $120,650.

There will be officers' rooms and a dormitory on the second floor with toilets, showers, and locker room. The smoking room, library, and kitchenette will be on the third floor.

In the rear a six-story brick drill tower will be provided for use of all the companies in the South Boston district.

There are to be three double doors for the passage of apparatus. In the basement will be racks for drying hose. Limestone trim will be used over the doors and windows and the type of architecture will be Colonial.

HARRY BELKNAP.

Many Honor Memory of Chief J. H. Speddy

A detail of forty firemen of Lakewood, Ohio, escorted the remains of the late Chief Joseph H. Speddy, to the Lake View Cemetery where he was buried November 9.

The honorary pall bearers were Mayor Wiegand, L. B. Miller, Chief of Lakewood police; George A. Wallace, Ex-Chief, Cleveland; Chief James E. Granger, Cleveland; Chiefs Edward J. Green, Steubenville; Edward McGranahan, Wheeling, W. Va.; Tom Bryan, East Liverpool; Thomas McFarland, Marion; Joseph Kirby, Dayton; Harry King, East Cleveland; John Curtis, Sandusky; John Grogg, Tiffin; William Berger, Fremont; Otto Roman, Cleveland Heights; John Erwin, Shaker Heights; John C. Nevel, Berea; P. J. Harty, Youngstown Sheet & Tube Co.; Edward Foran, Goodyear Tire & Rubber Co.; Assistant Chief Frank Vernotzy, Akron, and others.

C. T. Donnelly is now Acting Chief of the Lakewood Fire Department.

Agitation has been started in North Tarrytown, N. Y., for the erection of a new fire station.

THE COVER ILLUSTRATION

Behind the lines, in a spot which the most curious of the public often fails to find, can be found the unsung heroes of the forest. They are the men who help prevent tiny camp blazes from developing into huge fires, and when the major sized fires do arise, they are the first on the scene. The cover illustration shows a camp of the forest rangers in the Kootenni National Forest, Montana. They can very well be named the "unsung heroes of the forest."

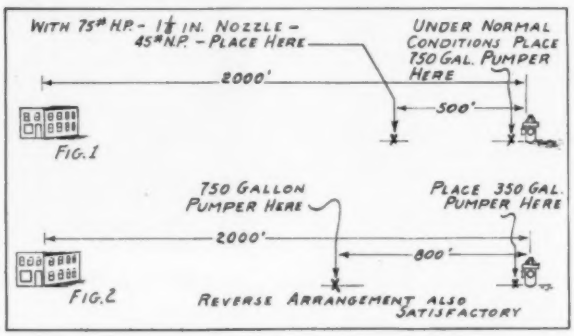
Questions and Answers

NOTE—Readers are invited to send in questions, which will be answered in the order received. Names are omitted from questions unless otherwise specified

Engines in Relay

To the Editor:

Will you please mark an "M" at the proper place on the sketch below that a 750 gallon pumper should be placed. Any further information that you may give me will be gratefully received.



Will you mark an "X" at the proper place on this sketch that a 750 gallon pumper and a 350 gallon pumper used in relay should be placed?

K. E. W.

Answer: In the first layout you give for a single 750 gallon pumper, the pumper should normally be placed at the hydrant.

However, if a single line of 2½ inch hose is available, and the maximum per cent of the hydrant pressure can be secured, then a placement of the engine a distance from the hydrant might be justified.

It will be assumed also that the pressure of 75 pounds at the hydrant is maintained while the stream is in operation.

Under these conditions 75 pounds at the hydrant would have to take care of the friction loss between the hydrant and engine and, in addition, leave residual pressure of above 10 pounds to supply the engine. In other words, there would be 65 pounds available for overcoming friction loss.

If 1⅛ inch nozzle is employed, and 45 pounds provided at the nozzle, the flow will be 250 gallons per minute with a friction loss of approximately 13 pounds per 100 feet.

The 65 pounds would then be able to take care of 65 divided by 13, or 500 feet of hose. Under these conditions the pumper would be placed 500 feet from the hydrant.

The engine would be required to pump the water through 1,500 feet of 2½ inch hose, with friction loss of 13 pounds per 100 feet or a total friction loss of 195 pounds. In addition, it would be required to give 45 pounds nozzle pressure. In other words, the total pressure that the engine would have to provide would be 195 plus 45 or 240 pounds which it should be able to do when discharging 250 gallons per minute

With reference to the second layout, where a 350-gallon and a 750-gallon pumper are employed, the problem is a little more difficult. Ordinarily a small pumper does not fit so well in tandem with the larger pumper due to its limited capacity and pressure. However, in many smaller cities such an arrangement would be necessary.

The small pumper is usually placed at the hydrant and the larger pumper somewhere along the line. A reverse arrangement would work as well except that the hose near the larger pumper placed alongside the hydrant would be under greater pressure than were the small pumper used at the hydrant.

Assume that a 1⅛ tip is used and that 50 pounds at the nozzle will be required. This will represent a flow of 265 gallons per minute and a friction loss of approximately 17 pounds per 100 feet.

The smaller pumper at the hydrant will be helped by the hydrant pressure and on the basis of 17 pounds per 100 feet of hose the friction loss, with the assistance of the hydrant, the smaller pumper should be able to discharge water through 800 feet of hose and give sufficient residual pressure to supply the larger engine.

The 750 gallon pumper would then have to pump through 1,200 feet of 2½ inch hose, representing a friction of 204 and in addition, furnish 50 pounds nozzle pressure or a total pressure at the second engine of 254 approximately.

Negligence in Operation

To the Editor:

We would appreciate any information that you may have concerning the liability of a village having a volunteer Fire Department, in case of an accident from driving the fire apparatus.

N. M. F.

Answer: Your problem was submitted to Leo T. Parker, Attorney at Law, who is acquainted with cases of this nature. He writes as follows:

"It seems that all Courts have held municipalities not liable for injuries resulting from negligence in operation of municipal fire departments, except the state of Florida which, however, recently rendered a decision upholding the general law on this subject.

"With respect to automobile accidents, an interesting recent case is Farrell vs. Fire Insurance Salvage Corps., 179 N. Y. S. 477.

"The facts of this case are that a battalion chief in the Fire Department of the city of New York, in the performance of his duty, was on his way to a fire. He was riding in the front seat of a Fire Department automobile, seated beside one of his subordinates who was a firemen regularly detailed as a driver. At the intersection of two streets the automobile in which the chief was seated collided with a larger automobile of the salvage corps proceeding to the same fire in answer to the same alarm.

"The Chief was severely injured and sued the Fire Insurance Salvage Corps for damages. The latter contended that the Fire Department apparatus did not have the right of way in view of the following ordinance:

"'The officers and men of the Fire Department, and the officers and men of the Insurance Patrol, respectively, with their apparatus of all kinds, when on duty, shall have the right of way at and in proceeding to any fire in any highway, street or avenue, over any and all vehicles of any kind except those carrying the United States mail.'

"Since this ordinance granted the right of way to both the Fire Department apparatus and salvage corps vehicles, the Court held the Fire Chief not entitled to recover damages.

"Regarding the liability of a village, which has a volunteer Fire Department, for negligence, in a review of various cases, although no New York case is found, the general law discloses that, while the village itself is not liable for negligence in performance of a governmental duty, yet the volunteer members of the Fire Department may be personally liable for failure to exercise ordinary care and use due diligence in fulfilling their expressed and implied duties."

When Dynamite is Most Sensitive to Shock

To the Editor:

On page 878 of the FIRE AND WATER ENGINEERING, May 11, 1921 issue, W. L. Wedger of the Mass. Dept. of Pub. Safety has this to say about dynamite: "When

in a chilled or partly frozen condition it is sensitive to shock or friction." Now I understand of course that dynamite is dangerous at all times but am I to believe that Mr. Wedger means that it is most dangerous at the above mentioned time?

In reading through my copy of "Questions and Answers for Lieutenants and Captains," I find an answer on page 77 that refers to "Industrial Chemistry," by Allen Rogers in which he states that "when so frozen it is less sensitive to shock."

Will you kindly put me right on the subject—When is nitro-glycerin or dynamite most dangerous or most sensitive to shock and detonation?

M. E. G.

Answer: Both statements you refer to are in themselves correct. In answer to a similar question in 1924, the following was published:

"The question was referred to Col. B. W. Dunn, Chief Inspector of the Bureau of Explosives. Col. Dunn is without question the greatest authority in this country on explosives, and is now Chief Inspector of an organization which regulates the transportation of explosives on practically all railroads of this country. Col. Dunn's reply is as follows:

"'When dynamite is completely frozen it is much more difficult to make it explode, a much stronger detonator being required. This difficulty is so great that even with strong detonators many failures would result in blasting work. This explains the general practice to either manufacture the dynamite so that it will stand low temperatures without freezing, or to provide means for thawing the explosives before use.

"'In the operation of thawing dynamite many accidental explosions have occurred, especially in handling material partially thawed. One theory to account for this assumes that the partially thawed cartridge has a solid interior still frozen and that the act of breaking the cartridge in two, which breaks the frozen crystals of nitroglycerin, produces the extra sensitiveness. According to this theory some of the liquid nitroglycerin on the exterior is subject to pressure or friction between the hard frozen crystals of the interior portion.'"

Hence, dynamite when solidly frozen is not sensitive to shock. When in partly frozen state it is highly sensitive; in its normal condition, it is less so.

Friedel Named Chief of Union City

The Board of Commissioners of Union City, N. J., has named Battalion Chief Charles Friedel, Jr., as Chief of the Fire Department to succeed the late Chief Fred Schier.

Chief Charles Friedel, Jr.

Friedel joined the old volunteers of the Town of Union in 1920 and was foreman of the Union Hill Hook and Ladder Company No. 1. In 1925 he became Assistant Chief of the department.

When the Fire Department was placed on a paid basis, Friedel was made a captain in 1926. Mr. Friedel completed a six months' course in the New York Fire College in 1929 and upon the completion of the course was detailed as acting Battalion Chief. The post of Battalion Chief was created in 1930 and Friedel was named to the new office.

Captain Joseph Firenze has been advanced to Battalion Chief to fill the vacancy created by the promotion of Chief Friedel. Mr. Firenze joined the Union City Fire Department shortly after the World War and he has an excellent record in the Fire Department service.

A new fire station is to be erected in Monroe, Mich., to replace the present No. 2 Fire Station.

CHIEF JAMES J. MULCAHEY OF YONKERS, N. Y., RETIRED

Change in City Regulations Forces City Employees to Resign When 64 Years Old—Secretary-Treasurer of the I. A. F. C.

WITH the adoption of the Home Rule Bill by Yonkers, N. Y., Chief James J. Mulcahey who has been head of the Fire Department since 1902 has been forced to retire. A clause in the pension bill makes it compulsory for retirement at the age of sixty-four years which Chief Mulcahey has passed.

Ex-Chief J. J. Mulcahey

He was born in Yonkers on July 2, 1858, and with the exception of two years when he was in New Rochelle, he has lived all his life in Yonkers. He was educated in the public and parochial schools of that city.

To help with finances at home, he entered the hat making industry at an early age and became expert in every department. Mr. Mulcahey was promoted to Assistant Foreman in one of the largest organizations of that time.

Previous to 1872, the village depended on wells and cisterns for water, and the Fire Department consisted of hand drawn engines manned by volunteers. With the purchase of a new hose carriage and the organization of a new company, he was counted as a member of the company, although he was not of age. This was in March, 1876, and he served as a volunteer until 1905. During this period he was honored with every company office and was made Assistant Chief in 1882.

In 1884 depression had effected the hat making industry and jobs were scarce. Mulcahey obtained work in the construction department of the Metropolitan Telephone Company, now the New York Telephone Company. He remained at this work until May, 1887, when he returned to his former work.

During his employ with the telephone company, the company had charge of the fire alarm telegraph system. Repair and maintenance work was generally assigned to Mr. Mulcahey as there were not many specialists in those days.

In 1902 he was elected Chief of the volunteer Fire Department consisting at that time of 1,200 men. The Mayor was dissatisfied with conditions and when the term of Chief Mulcahey ended, he was called upon to reorganize the Fire Board. He was appointed to the Board, February, 1906, and he served as Commissioner until August of that year.

When the office of paid Chief was established, Chief Mulcahey was prevailed upon to accept the position because of many years of service in the department.

In 1925, at the Louisville convention of the International Association of Fire Chiefs, Chief Mulcahey made up his mind to apply for his pension, but the death of his wife shortly after changed conditions. The question of retirement was always postponed.

Chief Mulcahey has served as Secretary of the International Association of Fire Chiefs since 1920. At the 1931 convention held in Havana, the offices of Secretary and Treasurer were combined and Chief Mulcahey was elected Secretary-Treasurer.

His retirement from the Fire Department becomes effective on December 31.

Chief Haggerty, Berkeley, Cal., Injured

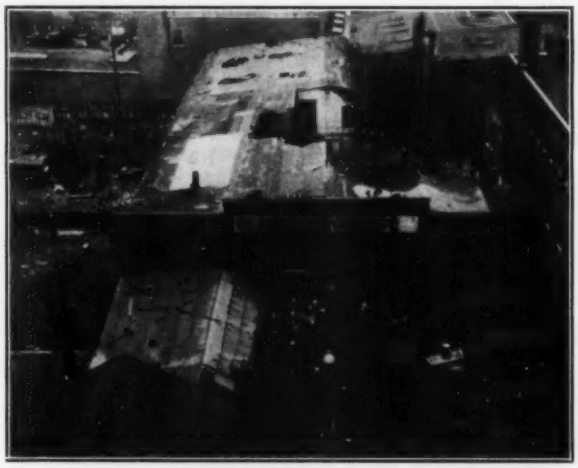
Chief George Haggerty, of the Berkeley, Cal., Fire Department, was very seriously injured, a lieutenant and a private of the department were killed, and another private badly hurt, when gas exploded in a residential fire in that city. More than seventy onlookers at the fire were more or less seriously injured by the blast.

GASOLINE TORCH EXPLOSION STARTS 3-ALARM GARAGE FIRE

Gasoline Drums in Garage Burst in Rapid Order Destroying Sixty Stored Cars—Wind Stops Flames Spreading to Storage Shed

By THOMAS F. MAGNER

A THREE-ALARM fire which sent a fire lieutenant to a hospital and caused minor injuries to other firemen, totally destroyed the Elm City Garage, Meadow Street, New Haven, Conn., on November 15. The damage was estimated at $100,000 and gave the Fire Department a three-hour battle before the flames were subdued. A check-up after



Ruins of the Elm City Garage in New Haven Conn.

the fire showed that sixty automobiles, which were stored in the garage, were totally destroyed.

The fire was caused by the explosion of a gasoline torch being used by an employe of the garage. When the torch exploded, the flames leaped to gasoline drums nearby. The employee called for help and a still alarm at 6:47 o'clock p.m. brought out Engine 12. The still alarm was followed in two minutes by an alarm from Box 124, located at Meadow and Whiting Streets. Several companies responded on the bell alarm and when the firemen arrived the garage was a roaring inferno, fed by many gasoline drums which burst in rapid order, erupting the flames from the roof and windows of the two-story brick structure.

The second alarm was sent in at 6:57 p.m. summoning three more companies and, on the orders of Chief Lawrence E. Reif, the third alarm was sent in at 7:05 p.m. Four companies responded on this signal.

At one time during the height of the blaze, firemen seeking to break open a large window on the second floor near the entrance narrowly escaped serious injury. Lieutenant William J. Langdon, the most seriously hurt, was struck on the chest by a nozzle attached to a charged line. Lieutenant Langdon was directing the placing of a line of water, when the pressure suddenly whipped the hose line out of the hands of firemen and the nozzle swung back striking the lieutenant directly across the chest, inflicting painful injuries. He was knocked unconscious and an ambulance rushed him to Grace Hospital.

A small metal covered storage building about 150 feet from the fire, owned by the Atlantic Refining Company and which ordinarily holds 1,000 gallons of gasoline, was endangered by the flames. A stiff wind was blowing in the opposite direction which prevented the blaze from reaching the storage shed. Eleven water lines pumping 500 gallons a minute, poured 450,000 gallons of water into the building.

Lynbrook, N. Y., has received the final set of plans for a fire alarm system from Charles A. Whitney who has been employed by the village as fire alarm expert. Bids will be received December 21 for the installation of the system including the construction of a central station, equipment, conduits and wiring, and fire alarm boxes. A $24,000 bond issue has been approved for this work. The central station will be erected to the rear of the municipal building.

Brookline has Large Church Fire

The Harvard Congregational Church, a handsome stone structure at 210 Harvard Street, Brookline, Mass., was destroyed in a spectacular general alarm fire.

The blaze originated from an unknown cause in the basement underneath the pipe organ and had obtained great headway before being discovered. The first alarm was received from Box 213, corner of Harvard Avenue and Sewall Avenue, at 5:17 p.m. This brought to the scene Engines 1, 2, and 5, Ladder 2, and Chemical 1. A second alarm at 5:22 summoned Engines 3 and 7 and Ladder 1; and a third alarm at 5:35 called out Engines 4 and 6 and Ladder 3.

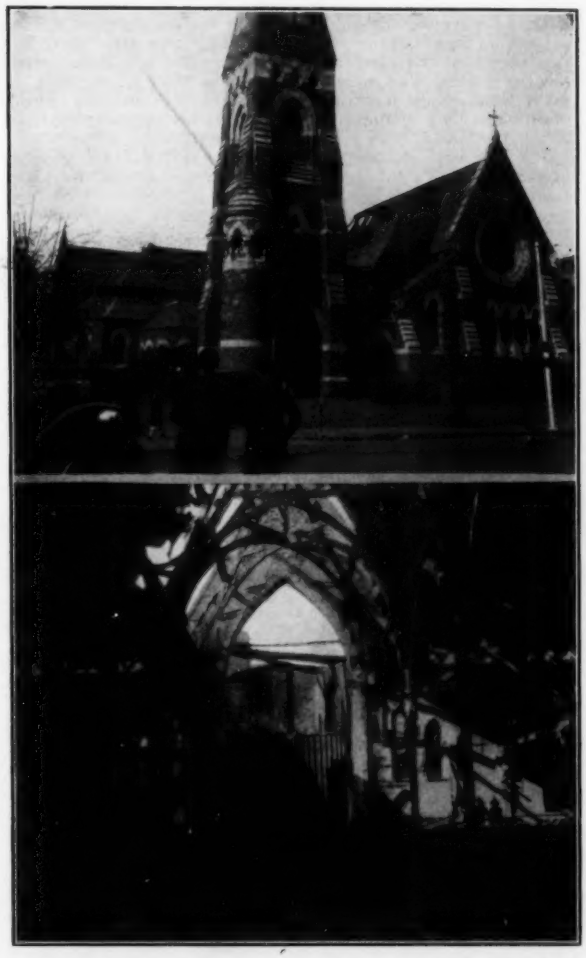
Apparatus from Boston and Newton covered in at the vacant Brookline fire houses. In the absence of Chief Selden R. Allen, who was on his way back from the chiefs' convention in Havana, Cuba, Deputy Chief John B. McDonald was in charge of department operations. There were 128 officers and men on duty, including the off-platoon, which responded promptly upon the sounding of the multiple alarms.

Plenty of post hydrants were available with good water pressure, but the flames were raging through the walls and cockloft to such an extent that the church was beyond saving by the time the apparatus got to work.

The department laid 8,800 feet of 2½- and 3-inch hose and raised 785 feet of ladders. All the apparatus in service was of American-LaFrance make except the chemical which is mounted on a Pierce-Arrow chassis. The lighting plant rendered efficient service.

One fireman was knocked unconscious by falling slate and several others received minor injuries.

A large crowd was attracted to the scene and all traffic on Harvard Avenue was tied up for several hours. The interior of the edifice was completely ruined and the slate roof burned



Exterior and Interior of the Harvard Congregational Church After the Three-Alarm Fire

through. The large steeple and chimes were undamaged, but the expensive organ and many beautiful memorial windows were destroyed. The damage was estimated at $150,000.

The neighborhood was showered with sparks and embers and there was danger of other fires being started on the roofs of nearby residences. Streams of water were directed so as to form spray curtains and wet down adjoining property. It is believed that defective electric wiring may have been the cause of the fire.

HARRY BELKNAP.

Two Lives Lost in Hotel Fire

Two lives were lost and the interior of the three-story brick building occupied by the Ideal Hotel on Main Street, Middletown, Conn., was partly gutted by fire on November 10. The hotel was poorly equipped for the safety of its occupants and is one of the cheaper type of hotels in the city. Its occupants were of the poorer class and used old mattresses for sleeping accomodations.

One of the occupants, a municipal laborer, was found by firemen crouched against a wall on the second floor. He was unconscious when rescued and died a few hours later in a hospital. Another lodger who was carried out after being overcome, died three days after the fire. The lodgers were trapped by the flames that had eaten their way from the back porch. When Chief Michael W. Lawton of the Middletown department arrived he found it difficult to enter the building to attempt rescues.

The new Middletown 65-foot aerial truck recently purchased for the department, was used for the first time and enabled the firemen to reach those trapped on the third floor. Chief Lawton made two rescues during the fire, carrying an aged roomer down from the third floor on the aerial and effecting a second rescue from one of the second floor rooms.

Lack of fire escapes on the building and the flimsy arrangement of the sleeping quarters on the top floor forced the occupants, who were asleep at the time of the fire, to make their escape down a narrow flight of stairs into billows of smoke. One of the guests saved his life by jumping from an attic window onto a roof a few feet away.

The fire was discovered at 2:27 a. m. All fire apparatus in the town was summoned later on a special call by Chief Lawton. The Fire Department in Middletown is composed mostly of volunteers and with the aid of the permanent force, the loss to the building and contents was kept down to approximately $5,000.

WHAT'S BURNING

THE following list includes fires of $25,000 loss and over in the United States and Canada, for the periods designated in the headings. These figures, compiled from telegraphic reports, are based on estimates made at the time, and are subject to later investigation and consequent revision. Taken as a whole, however, they give an approximately correct view of the losses incurred. The figures represent loss in thousands of dollars.

Week Ending November 27	Loss in Thousands of Dollars
NEELYVILLE, MO.—Property of Clay County Cotton Co.	25
TYRONE, PA.—Store of Garman & Sons Dry Goods Co.	80
CRESCENT CITY, CALIF.—Hotel annex and seven stores	25
ELLSWORTH, ME.—Lumber plant of Forest Products Co., destroyed	25
MONTICELLO, MISS.—Lawrence County Courthouse destroyed	40
ROCHESTER, MINN.—Woolworth store and six adj. establishments	70
BINGHAM, PA.—Water pressure plant of Matthews Oil Corp.	25
HALIFAX, N. S.—Rockaway Inn, destroyed	25
DUNDAS, ONT.—Property occupied by Concrete Products Co.	25
WILMINGTON, N. C.—Cape Fear Country Club damaged	30
FITCHBURG, MASS.—Wachusett National Bank bldg.	45
TIOGA, PA.—Property on farm of V. B. Hughes, destroyed	25
GREYBULL, WYO.—Fire station damaged	60
LAKEVILLE, CONN.—Post office bldg. destroyed	35
CAMDEN, N. Y.—Plant of Camden Wire Co., destroyed	45
AUSTIN, TEX.—Whse. of Woodward Mfg. Corp., 2 mi. out	45
KAUKAUNA, WIS.—Mill bldg. owned by First Realty & Investment Co.	25
HOPEWELL, PA.—Entire business district destroyed	175
HURON, OHIO—Farm home of Vincent Hinde, 6 mi. west	25
OSHKOSH, WIS.—Plant of Gunz Durler Candy Co., destroyed	80
MUSKEGON, MICH.—American Hotel bldg. damaged	35
Week Ending December 4	
MT. CLEMENS, MICH.—Property of Fleming Ice Cream Co.	50
TAUNTON, MASS.—Apartment bldg. at 11 Creedway St.	25
ANTIGO, WIS.—McClellan store and apartments damaged	45
GILLETTE, WYO.—Garage of McGrew Motor Co destroyed	45
ROBERVAL, QUE.—J. P. Gonthier vulcanizing plant	25
BELLEVILLE, N. J.—Property occupied by Advance Products Corp	65
NEW BERN, N. C.—Brinson Memorial School, 3 mi. out	25
FORREST CITY, ARK.—Sheds of Forrest City Cotton Oil Co.	150
E. ST. LOUIS, ILL.—Barns of National Stock Yards	70
ST. JOHNS, N. F.—Stores and offices on Water Street	400
SYRACUSE, N. Y.—Empire Hotel stores damaged	45
LYNCHBURG, VA.—Grocery of C. H. Beasley & Bro.	80
SAN JOSE, CAL.—Annex of St. James Hotel damaged	45
HOWELL, MICH.—Store of R. E. Barron Implement Co.	45
SPRINGFIELD, MO.—Plant of Anchor Mfg. Co., destroyed	65
PORTLAND, OREG.—Warehouse of Gardner & Farmer, damaged	30
SEATTLE, WASH.—Commercial Boiler Wks. adj. property	150
OTTAWA, ONT.—Fraser bldg. damaged	25
NASHVILLE, TENN.—Gymnasium of Central High School destroyed	25
NEWTON, N. J.—Barns on Windy Brow Farm, Fredon Township	70
HILLSBORO, TEX.—Store of B. & J. Sales Co. destroyed	65
NEMACOLIN, PA.—Dept. store of Chas. Ruttenberg	45
HUGO, OKLA.—Armory of 158th Field Artillery damaged	35
LIVINGSTON, MONT.—Livingston Milling Co. plant	65
BLOOMINGTON, ILL.—Planing mill of P. O. Moratz	45
SIOUX CITY, IOWA—Property of Brooks Motor Co. damaged	125
COAHOMA, MISS.—Post office and adj. business property	100
McALESTER, OKLA.—J. B. Cambron bldg. damaged	35
ERIE, PA.—Fletcher drug store, adj. property	50
SYDNEY, N. S.—Elan business block destroyed	200
ELM PARK, N. Y.—Tugboat "Hugh J. O'Donnell" damaged	25
HADLEY, MASS.—Dormitory of Nichols Junior College	45
JACKSONVILLE, FLA.—Waterfront property of Seaboard Air Line R. R.	400

New House Opened in Westport, Conn.

The new two-story modern equipped fire station of the Vigilant Hose Company No. 3, at Westport, Conn., was officially opened, the local officials and Fire Chiefs from many

New Fire House in Westport, Conn.

cities and towns in Southern Connecticut being on hand as the guest of Chief Francis P. Dunnigan.

The building is of brick construction and was erected through the untiring efforts of Chief Dunnigan and a committee of Westport citizens. The town of Westport, known as the home of many famous artists and illustrators, is now one of the best protected communities in Connecticut and its progress in fire fighting during the past few years has been rapid. There are now three fire stations in Westport.

In the rear of the new building is located the drill tower to be used for training the members of the town's volunteer department. The first floor will be used for the company's apparatus. Locker rooms and the heating system for the building occupy the basement. On the second floor at the front of the station is the company's reception room while the remainder of the building is taken up with a kitchenette, dormitory and wash rooms.

The Vigilant Company is one of the oldest volunteer companies in this section of Connecticut. It was organized on February 4, 1874. There are 85 members in the company.

THOMAS F. MAGNER.

It was announced that the new fire station that will be erected in Cambridge, Mass., will conform to the architecture of the Harvard University buildings.

A celebration was arranged to commemorate the fifty-sixtn wedding anniversary of Mr. and Mrs. Theodore Montmeny of Chicopee Falls, parents of Chief Arthur Montmeny of Chicopee, Mass.

Chambers Chief of Yonkers, N. Y.

Assistant Chief Arthur E. Chambers, of Yonkers, N. Y., has been named Chief of the Fire Department to fill the vacancy caused by the retirement of Chief James J. Mulcahey. Although he is now acting as Chief, the appointment will not become effective until December 31, when Chief Mulcahey completes his 30-day vacation period.

Chief Arthur E. Chambers

Chief Chambers was born in Yonkers, N. Y., November 21, 1871. Following his graduation from public school, he moved with his parents to Boston, and a few years later, returned to Yonkers.

For many years he worked as a machinist in the Otis Elevator Company plant at Yonkers.

He became a member of the paid Fire Department on May 1, 1905, and he drove a horse-drawn apparatus. A year later he was promoted to Lieutenant and assigned to a new station that had just opened. In 1911 he was placed in charge of the newly created repair shop of the Fire Department.

On December 31, 1921, Chambers became Third Assistant Chief, but he still continued in charge of the shops. He was advanced later to Second Assistant Chief and this year, because of a resignation in the department, was promoted to First Assistant Chief.

Chief Chambers is a member of the F. & A. M., Knight Templars and is a 32nd Degree Mason; he is also a member of the B. P. O. Elks, and the International Association of Fire Chiefs.

Newly Elected Chiefs

The following have been elected to head the Fire Departments in their respective municipalities:

Westgate, Cal.—D. P. Williams.
Lithonia, Ga.—L. L. Rainey.
Falls City, Ore.—H. S. Zimmerman
Point Pleasant, N. J.—Elmer K. Errickson.
Greece, N. Y.—Raymond Schultz.
West Point, Ia.—E. Kaltefleiter.
Vale, Ore.—J. Kiser.
Redmond, Ore.—E. C. Parker.
Victoria, Tex.—Vincent S. Fritz.
Maquoketa, Ia.—Paul Broderson.
Boothwyn, Pa.—Richard Hall.

Suit Designed for Ammonia Fumes

A combination suit has been designed by the Alb Rubber Company of Somerville, Mass., as a protection against ammonia fumes, although it is claimed that the suit can be worn for many other emergency conditions, as the suit is waterproof and gasproof. It is designed to furnish protection from the feet to the chest. This combination rubber suit is being used by the Boston and the Somerville Fire Departments.

Two new units of fire apparatus have been delivered to the Fire Department of Island Park, L. I.

Amherst, Ohio, is considering the purchase of new fire apparatus.

Alliance, Ohio, is considering the purchase of new fire apparatus. A committee has been visiting nearby cities to inspect their apparatus.

The Village of Avon, Ohio, has purchased fire apparatus and has let a contract for the construction of a new fire station. In the past the village has had to rely on the Sheffield and Dover Fire Departments for protection.

Petitions have been circulated for the formation of a fire district surrounding the town of Los Gatos, Cal. The district will include the city of Los Gatos outside the city limits for about two miles.

Firemen of Norristown, Pa., voted to discontinue the plan of reviving the annual parade of the department. The parade and inspection has been an annual feature for more than thirty years but was abandoned two years ago.

Bogota, S. A., to Receive Fire Apparatus

The Fire Brigade of Bogota, Colombia, South America, has declared a holiday for the reception of the first consignment of motor fire apparatus due to arrive there next week. Four pieces of Mack apparatus were tested out in New York City in the presence of representatives of the manufacturer and the Bogota Consulate in New York.

The tests were conducted by Charles A. Whitney, former engineer of the National Board of Fire Underwriters, who also acted as representative of the Colombia government. The pumpers were subjected to the standard three-hour Underwriters' test and the results were well over the requirements.

The South American capital of Colombia was represented by the Hon. German Olano, Consul General, who expressed himself as satisfied with the performance of the engines and particularly with the six-cylinder 1,000 gallons capacity reservoir on wheels, equipped with a booster pump. The other three pieces are two 750-gallon centrifugal pumpers, and a hose tender.

It was explained by Mr. Olano that in the suburban parts of Bogota there is no water supply, hence the necessity for a fire engine which carries its own reservoir. The elevation is 8,000 feet.

The Mack tractor-trailer-booster-tank fire truck for suburban fires has a six-cylinder, 80 brake horsepower, engine; a booster tank is mounted on the tractor, underneath the driver's seat and is operated by the tractor engine. Capacity of the tank is 150 gallons per minute at sea level. The tank is connected to the pump by flexible 2-inch armored hose coupling. The booster line is 150 feet of one-inch hose, coupled to the pump, carried in a basket on top of the tank. There are two 40-foot three-section extension ladders; one 24-foot extension ladder and one 12-foot roof ladder, mounted on each side of the tank. Hose racks carrying 500 feet each of 2½-inch hose, are mounted on each side of the tank. Underneath the racks, on each side, are built equipment boxes for storing foam generator and other equipment. The foam generator is mounted on the tractor running board.

Apparatus to be Delivered to Bogota, Columbia

Upper, special apparatus which carries a 1,000-gallon water tank and is provided with a booster pump. It is to be used for fighting fires in the suburbs. Lower, testing the pumpers on a dock in Long Island City. Standing in the foreground is the Hon. German Olano, Consul General for Columbia in New York City.

There are two 2½-gallon hand extinguishers; one soda-acid and one foam extinguisher. The tractor wheel base is 126 inches and the semi-trailer is 119 inches. The turning circle is approximately 45 feet.

WM. JEROME DALY.

Firemen of Ballston Spa., N. Y., have demonstrated the value of the regional fire schools that have been held in various sections of the state. Several members of this department attended the school held in Glens Falls, N. Y., last summer. After the school, these men passed on what they had learned to other members of the Ballston Spa Fire Department. At an inspection conducted under the supervision of Chief Howard Humes, the firemen proved that they had assimilated the lessons of the regional school.

The Round Table

(*Continued from page 932*)

have frozen hydrants but we thaw them in two or three minutes. We have a Ross Hydrant Thawing Device and have found it satisfactory in every way. We carry the thawing device on the service truck all winter. This truck answers all calls.

J. R. Eldridge, Chief, Johnson City, N. Y.: I have been a member of the Water Board for a number of years and have given a great deal of thought to the entire water works. To my knowledge we have never had a frozen hydrant in seventeen years.

We do, however, have a few hoods we place over some hydrants each year. These hoods are about two feet in diameter, thirty inches high made of galvanized iron. We pack around the base on the ground with horse manure and fill the hood with fine straw, so we have a positive proof from freezing. We also have on our pumper a hydrant thawing device, which we have never used.

George A. Wood, Chief, Niagara Falls, N. Y.: We are not seriously troubled by frozen hydrants, we have, however, a Ross Thawing device for this purpose and have found it to be very satisfactory.

J. H. Espey, Chief, Elmira, N. Y.: We have very little trouble from the hydrants freezing.

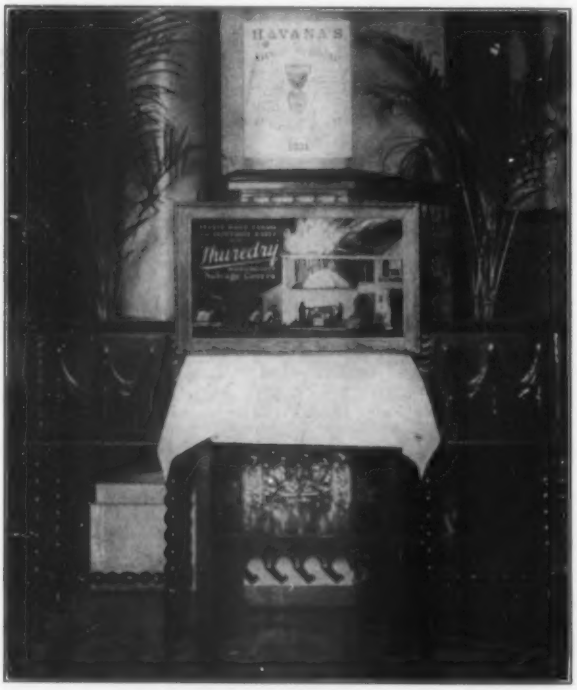
The water board has charge of the hydrants. Any hydrant found unfit for use, from freezing or any other cause, is put in shape immediately by employees of the Water Board. They generally use an electric device and it has been satisfactory as far as I know.

E. Seymour, Chief, Plattsburgh, N. Y.: We are troubled by frozen hydrants.

The hydrants are taken care of by the Street and Sewer Department. They are thawed out by steam and the Ross thawing device. Both methods have proven satisfactory.

Walter Ducker, Chief, Kenmore, N. Y.: We have very little trouble with frozen hydrants.

We use the Ross Thawing device on frozen hydrants, and have found it very satisfactory.



Use of Salvage Covers Shown at Convention

A scene-in-action picture, showing the use of Shuredry salvage covers, was exhibited by the Fulton Bag & Cotton Mills in the lobby of the Plaza Hotel, Havana, during the I. A. F. C. convention. It demonstrated how the covers protect the contents of a building.

Edward W. Gieselman, Chief, Syracuse, N. Y.: We very seldom have trouble with frozen hydrants.

The barrels of our hydrants are connected by drains so when a hydrant is shut off, it will drain itself. All our men have been instructed not to place the cap back on a hydrant as soon as it is shut off, but to wait until they are ready to start back to quarters. Then the men go to the hydrant and replace the cap. If the cap is placed on the hydrant the minute you shut it down, you air-bind your hydrant so it will not allow the hydrant to drain. The result is that the hydrant is filled with water and is bound to freeze. All hydrants in our city, when used by our department, are reported to the Water Department when the officer returns to his quarters.

We have a thawing device on each of our pumpers (connected to exhaust). They are seldom used. We have one Ross Thawing Device used mostly for thawing out our aerial truck and tower.

Our water system is entirely controlled and operated by the Bureau of Water and with the cooperation we receive from this department, little trouble is experienced.

Forest Craig, Chief, Kokomo, Ind.: The water works company always checks each hydrant that is used during cold weather to see that the hydrant is properly drained. In my opinion this entire eliminates frozen hydrants.

Talmer Wise, Chief, Circleville, Ohio: We are very seldom troubled with frozen hydrants. When we find that the hydrants are frozen we thaw them out immediately. We have no special equipment for this work and usually pour gasoline over the hydrant and set fire to it. It has answered the purpose very well.

Daniel Mosher, Chief, Dunkirk, N. Y.: We are not troubled by frozen hydrants as they are covered over with boxes. If such should occur, however, the Water Department would be called upon immediately to thaw it out.

Wm. F. Mader, Chief, Bucyrus, Ohio: So far we have not been troubled with frozen hydrants. The Fire Department does not take care of the hydrants. The water works has men out inspecting hydrants at least once a week when the weather is very cold.

Edward Ramie, Chief, Ogdensburg, N. Y.: We have not had a frozen hydrant in ten years or more. We had the Water Department thaw it out for us. They used a steam boiler and thawed with live steam. We have found this satisfactory.

H. S. Blair, Chief, Bellefontaine, Ohio: We are not very often troubled with frozen hydrants. Steam is used to thaw hydrants in our city. The city Water Department handles this work. To forestall freezing we inspect all hydrants in the fall and all that do not drain properly are dug up and the drain opened up. We have found this very satisfactory.

F. X. Pendleton, Chief, Belfast, Me.: We do not have much trouble with frozen hydrants in Belfast. The Superintendent of the Water District has a man, who in freezing weather visits the hydrants each day. He answers all alarms of fire so to be sure that they are in working order.

They use a steam boiler for a thawing device. This gives good service.

Andrew Milspaugh, Chief, Merrill, Wis.: We were troubled with frozen hydrants. The majority of the hydrants are on mains where there are flows of water. Where the hydrant is on a dead end we placed a bleeder so that there will be a small flow of water when the frost approaches the water mains. We use a small steam boiler for thawing hydrants.

Box 52 Holds Annual Dinner

Thomas F. Dougherty, Acting Chief of Department, New York City, was the guest of the Box 52 Association, Inc., of Boston, Mass., at the annual dinner of the organization which was held on November 12 in the Hotel Westminster, Copley Square, Boston.

President P. Hildreth Parker acted as toastmaster and the speakers included Chief Henry A. Fox, of Boston; Edward E. Williamson, Superintendent of Maintenance, B. F. D.; Chief Dougherty; Chief Selden R. Allen, of Brookline, Mass.; and Frank R. Bradford, Director of Safety and Fire Protection of the Boston and Maine Railway.

Among the chiefs present were Chief T. Robert Quinlan, of Needham; Chief William C. Mahoney, of Peabody; and Chief William H. Hill, of Belmont.

HARRY BELKNAP.

The Volunteer Fire Department

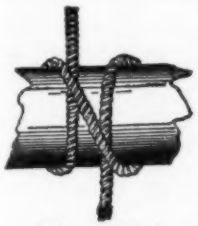
(*Continued from page* 930)

of the operator, and the tin is cut on the knife edge of the cutter.

In the oldest form of roof cutter, the point of the tool is driven into the roof, and the cutter is drawn towards the operator. In drawing the cutter along the roof, the cutting edge must run flat on the roof beneath the tin, otherwise there is danger that the point will catch on some raised surface and delay the work. When the tool sticks, the handle should be raised so as to free the point, and then the cutting operation is resumed. Incidentally, the cutters which operate by a pulling process are probably a little easier to manipulate in reference to smoke and hot gases, as the tool is worked with the back of the operator turned toward the wind. In this way the fireman takes no unnecessary punishment from smoke or gases that may come up as soon as the tin is opened.

The Life Line

The life line which is carried by truck companies is nothing more than a roof rope and it is used to provide a means for men on the roof of a building to reach the street in an emergency. It is also used for hoisting tools, hose or ladders up to the roof or upper floors of a building. When using a life line to hoist or lower anything to or from a roof or window, a hose roller such as the New York hose roller or the Bresnan hose roller should be fastened over the edge of the sill or roof, and the life line led over it to prevent the friction action from damaging the line.



A Clove Hitch

To hoist or lower a line of hose, if the hose is empty, use a clove hitch to make the line fast to the hose about eight feet from the end of the play pipe. If the hose is full of water, use a clove hitch to make the life line fast to the hose about eight feet from the end of the play and take a half hitch over the play pipe. Incidentally, it is not common practice to hoist charged lines to any considerable height. In using the life line, do not permit it to become snarled or tangled. Keep the rope evenly coiled either on a reel or otherwise, and see that it is properly coiled and tide up after the rope has been used.

The clove hitch is not a difficult knot to make, and the rope is never drawn taught so that the line will form into a hard knot. The illustration shows how the clove hitch is made.

Signal Devices

The signal flag which is made of red bunting, is used for warning engineers of railroad trains and for similar purposes. The flags are usually carried on ladder trucks. Flags, of course, are used in the daytime, and at night red lanterns are used. When a fire occurs in a building located on a street which is occupied by railroad tracks, and it is deemed necessary to prevent trains or cars from passing, one flag is placed on each side of the fire building at a sufficient distance away from the building to give the department space for operating. Usually the flags are placed one hundred yards each side of the fire.

Truck companies that frequently respond to rural fires, should carry a four-tine fork. This farm tool is used chiefly in overhauling, and where it is necessary to move or handle hay, straw and other similar materials. At farm fires it can be used to move hay out of the reach of an approaching fire or in spreading apart the contents of compressed bales.

The next chapter will describe the various forms of nozzles and their special uses at fires.

A bond issue has been carried in Elmore, Ohio, for the purchase of fire apparatus.

Henry S. Worman, former Chief of the Boonton, N. J., Fire Department, died suddenly as the result of heart disease at the age of sixty. He was a member of the Masons, Elks, Royal Arcanum and Odd Fellows.

Ontario, Cal., is considering the reorganization of its Fire Department. Under this plan, there will be no Fire Marshal, and the Fire Chief will direct the paid department and some of the volunteers. The paid department is not to be increased at this time.

603 Men Complete Los Angeles Course

The Los Angeles Fire Department Fire College held its graduation exercises at the Belmont High School Auditorium on Tuesday, November 24 at 2:30 p.m. for the 603 men comprising the Class of 1931 in Fire Engineering. The course consisted of twenty subjects, including Fire Department Hydraulics.

Several officers of other Fire Departments in near-by towns are included in this class.

Among those who spoke at the exercises were Mayor John C. Porter, State Fire Marshal Jay Stevens, Chief Wm. J. Mohr of Santa Monica, who is President of the Pacific Coast Association of Fire Chiefs, Chief R. J. Scott and Asst. Chief S. H. Dodd, Director of the Fire College.

Chief Scott on behalf of the Chiefs of the Fire Department presented a set of engraved resolutions to Prof. Benj. W. Johnson, Asst. Director of Vocational Training, University of California at Los Angeles, and also to L. G. Stier, Supervisor of Trade and Industrial Education, Los Angeles City Schools, as a token of appreciation of the work done by these two men in furthering the cause of vocational training in the department.

Several reels of motion pictures were projected showing the work of the department at fires, and also the activities of the Fire College, Drill Tower, etc.

This is the sixth year that the Los Angeles Fire College has been in existence, and is recognized by fire authorities throughout the United States as one of the finest institutions of its kind in the country.

The Department of Agriculture has made a study of rural community Fire Departments. The survey indicated that departments are usually financed by subscriptions from among the members of a rural community. It was pointed out that one reason for providing special rural apparatus, is the reluctance of small towns to send their apparatus into the country and thereby leave the town unprotected.

The Paris Fire Brigade Tests Two New Pumpers

The Molitor pumper which delivers 300 cubic meters of water in a minute, was tested by the Paris Fire Brigade in front of the Notre Dame Church, from which the photograph was taken. The pumpers delivered streams at an estimated height of 225 feet.

PROPOSED IMPROVEMENTS

Mitchell, S. D.—Fire department urging council to purchase new pumper to replace engine now in use. Council deferred action pending investigation by fire committee.

Cathlamet, Wash.—Plans have been presented before council for organization of a volunteer fire department.

Rome, N. Y.—Reports state public hearing to be held to consider authorizing issuance of bonds to the amount of $38,000 for new fire and police alarm system.

Clifton, N. J.—Legislation passed by city concil appropriate $23,000 for purchase of two new fire engines for the $60,000 fire station being erected at Broad St. and Van Houton Aves.

Jersey Shore, Penna.—Reports state Borough Council to consider erection of new fire station in west end of borough at next meeting.

New Orleans, La. — Reports state Fire Chief Evans recommended installation of new fire alarm system.

East Orange, N. J.—City Council approved recommendation of fire commission that central office fire alarm system be installed in new headquarters building at cost of $35,000. Several improvements over present system to be provided.

Helmetta, N. J.—Funds being raised by fire department for purchase of new apparatus, according to reports. Wm. Ford, Chief.

Notice to Bidders

LYNBROOK, NASSAU COUNTY, N. Y.

Bids received at 8 P. M. on Monday, Dec. 21, 1931

Sealed bids will be received by the Board of Trustees of the Incorporated Village of Lynbrook, at the Municipal Building, Merrick Road, Lynbrook, Nassau County, N. Y. at 8 P.M. on Monday, December 21, 1931 for the installation of an automatic Fire Alarm System consisting of a six circuit switchboard, twenty-three succession boxes, four sets of fire alarm equipment, underground cable, overhead wires and such other appurtenances as are necessary to install a complete operating Fire Alarm System.

Plans and specifications covering this work may be obtained from H. E. Dana, Village Clerk, upon deposit of $5.00 and plans covering underground duct system are on file at the Village Office where they may be seen and examined by those interested during office hours.

Each bid must be accompanied by a certified check in the amount of $500.00.

The right is reserved by the Board of Trustees of the Incorporated Village of Lynbrook to reject any or all bids and to increase, decrease, or, omit any of the quantities involved without claim by contractor for loss of anticipated profits or other reasons.

Harold E. Dana,
Village Clerk.

12-9

Massachusetts Fire Chiefs Meet

The November meeting of the Fire Chiefs' Club of Massachusetts was held in the Hotel Statler, Boston, on Wednesday, November 18, and was preceded by the customary luncheon.

Seated at the head table were Chief Frank E. Tracy, of Woburn, President; Ex-Chief R. Burt Jaquith, of Randolph, Secretary; Chief Charles H. French, Manchester, N. H.; Chief John W. O'Hearn, Watertown, Secretary of the New England Association of Fire Chiefs; Percy Charnock, of the New England Insurance Exchange; Ex-Chief Reuben D. Weeks, of Providence, R. I.; George F. Cobb, Traffic Manager, N. E. A. F. C.; William A. L. Bazeley, State Commissioner of Conservation; Chief Selden R. Allen, of Brookline, 2nd Vice-President of the International Association of Fire Chiefs; Robert Many, of the Fabric Fire Hose Company; and the Rev. Norris Morton, Chaplain of the Rhode Island Fire Chiefs' Club.

The principal speakers were Commissioner Bazeley and Mr. Charnock. Chief William F. Welch, of Lynn, and Chief Harold G. Dunlap, of Tyngsboro, were elected members of the club and the Rev. Mr. Morton was elected an honorary member.

HARRY BELKNAP.

Chief McPhee Honored by Dinner

A fine testimonial dinner to Chief Michael F. McPhee, of the Lawrence, Mass., Fire Department, was held a few weeks ago upon his return to active duty after an illness of several months. The banquet was held in the state armory in Lawrence and was largely attended. The speakers included Mayor Michael A. Landers, District Attorney Hugh A. Cregg, the Rev. James A. McDonald, Rev. C. B. Bowser, Congressman William P. Connery, Commissioner of Public Safety Peter Carr, of Lawrence; Chief Selden R. Allen, of Brookline, and Fire Commissioner Edward F. McLaughlin, of Boston.

HARRY BELKNAP.

CORRESPONDENCE

Phone and False Alarms

To the Editor:

On the editorial page of your November 25th issue of FIRE ENGINEERING, we note the item, "Couldn't Find a Coin for the 'Phone," which was very well handled.

One of your other editorials, "Motor Cars Send in False Alarms" is particularly good. I have always maintained that the proper way to reduce false alarms was to educate the children in the schools. We have found in the past that there are always firemen's children scattered throughout the classes, and by pointing out to the students that a false alarm may result in serious injury or death to their playmate's father, the seriousness of a false alarm can be very effectively driven home to them.

Very truly yours,

J. J. RYAN.

Man Burned Sending Fire Alarm

When a resident of Rockaway Beach, New York ran to a fire alarm box at Rockaway Beach Boulevard and Beach 84th Street, on Sunday evening, November 22, to send in an alarm for a fire in a nearby dry goods and furniture store, he was severely scorched about the face, neck and right hand and his overcoat was singed, as he pulled the hook of the alarm box.

He was rushed off to Rockaway Beach Hospital. The Police and Fire Departments investigated the peculiar mishap. A cable man from the fire alarm telegraph plant came and found that illuminating gas escaping from a nearby gas main had seeped up through the base of the alarm box post and it is believed that when the man opened the door of the box and snapped the hook, either friction, or the electrical contact made when the box started to trip in, ignited the gas fumes and resulted in burning the good intentioned citizen.

Test borings were immediately made by the Queens County Gas & Electric Company to locate the leak. The fire did $10,000 damage, but the alarm went in just the same from the box.

WM. JEROME DALY.

At a meeting of the Keystone Fire Chiefs' Association held in Royersford, Pa., Ex-Chief George W. Lee of Royersford, was elected President. He succeeds Chief Ross B. Davis of Philadelphia who has held the office for four years. The balance of the officers are members of volunteer Fire Departments.

CONVENTION DATES

Dec. 16—FIRE CHIEFS' EMERGENCY PLAN, OF WESTCHESTER COUNTY, N. Y. Regular Meeting, Fire Headquarters, Mount Vernon, N. Y. Secretary, Lieut. E. Riviere, Fire Headquarters, Larchmont, N. Y.

Jan. 8, 1932—FIRE CHIEFS' COUNCIL OF NASSAU COUNTY, N. Y. Next meeting, Garden City, L. I., N. Y. President, Chief George Maier, Long Beach, L. I.

Jan. 23-24, 1932—SOUTHERN CALIFORNIA FIRE CHIEFS' CLUB. Next meeting, Island of Catalina, Cal. Secretary-Treasurer, Charles E. Smith, Chula Vista, Cal.

May 9-12, 1932—NATIONAL FIRE PROTECTION ASSOCIATION. 36th Annual Meeting, Atlantic City, N. J. Managing Director, Franklin H. Wentworth, 60 Batterymarch St., Boston, Mass.

May 11, 1932—DEL-MAR-VA VOLUNTEER FIREMEN'S ASSOCIATION. 3rd Annual Convention, Cape Charles, Va. Secretary, W. A. Karpa, Cape Charles, Va.

June, 1932—NORTHWESTERN OHIO VOLUNTEER FIREMEN'S ASSOCIATION, 60th Annual Convention, Gibsonburg, Ohio (exact date to be decided later). Secretary, Harry Smith, Supt., Water Works, Port Clinton, Ohio.

June 21-24, 1932—ILLINOIS FIRE COLLEGE, 8th Annual College, University of Illinois, Champaign-Urbana, Ill. Director, Prof. L. H. Province; Secretary, Asst. Chief Roy W. Alsip, Fire Department, Champaign, Ill.

June 21-24, 1932—NEW ENGLAND ASSOCIATION OF FIRE CHIEFS, 10th annual convention, Newport, R. I. Secretary, John W. O'Hearn, Watertown, Mass.

Aug., 1932—VIRGINIA STATE FIREMEN'S ASSOCIATION. 46th Annual Convention, Alexandria, Va. (Exact date to be determined later.) Secretary, O. W. Dabney, Staunton, Va.

Aug. 2-4, 1932—INDIANA FIREMEN'S ASSOCIATION. 16th Annual Convention, Columbus, Ind. Secretary, Clem Smith, Post Office Box 520, Terre Haute, Ind.

Sept. 21-22, 1932—NEW CASTLE COUNTY FIREMEN'S ASSOCIATION. Annual Convention, Wilmington, Del.

How would YOU put out CHIMNEY FIRES ?

Chiefs who are quick to adopt better methods now use the

CENTRAL CHIMNEY FIRE FUSEE

All you do is scratch one like a match and hold it so that the burning gases go up the chimney. Simple, safe, sure.

Case of 36 ..... $18.00
Box of 6 ..... 3.00

Ask your supply dealer or write us direct.

CENTRAL RAILWAY SIGNAL CO., INC.
NEWTON, MASS.

Reduce WATER DAMAGE INSURANCE RATES With Shuredry SALVAGE COVERS

CHIEF BEARD
Columbia, Tenn.

Columbia, Tenn., February 24, 1931.

Fulton Bag & Cotton Mills, Atlanta, Ga.
Dear Sirs: We have been using Shuredry Covers for some time and I think they are one of the greatest things that is used in connection with the Fire Department, and when I need any more it will be Shuredry Salvage Covers.
Thanking you for past favors, I remain,

W. R. Beard
Chief.

Don't put off this important matter, but write for Shuredry samples today.

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No Ice! No Rust!

The Operating Thread of the

MATHEWS MODERNIZED HYDRANT

Reg. U. S. Patent Office

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Ice and Rust are vicious enemies of the Fire Hydrant—cause delays to the Fire Department when delays are disastrous.

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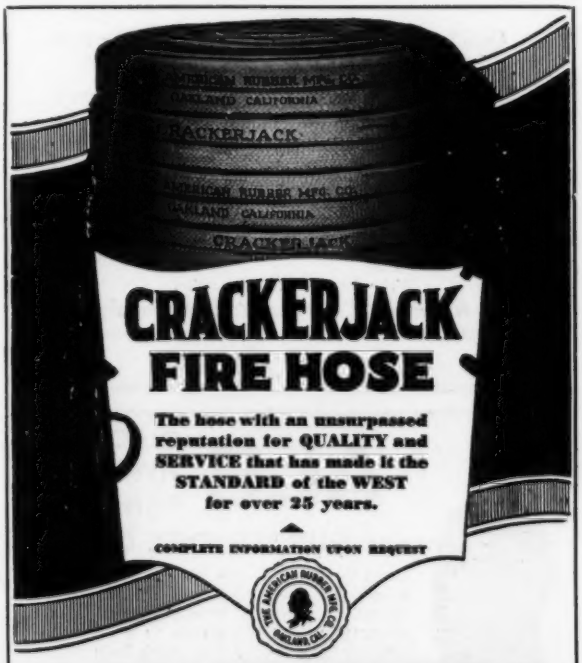

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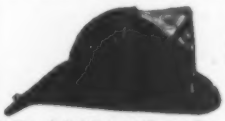

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The Law as to Injuries to Firemen

(*Continued from page 926*)

The captain contended that he was privileged to drive at any speed in view of the following law:

"The provisions of this section (relating to speed) shall not apply to motor vehicles of a Fire Department, motor police patrols or motor ambulances, when in the emergency service of their respective departments."

Although the lower Court held the captain liable in damages, the higher Court reversed the verdict and ordered a new trial stating the following important law:

"Notice must be taken of the fact that the Fire Department or fire patrol ve hicles is a more inclusive phrase than motor vehicles of a Fire Department. With reference to fire patrol vehicles, the Court has no knowledge that they are not or may not be privately owned. . . . The policy which exempts private cars from the statutory limitations on speed when used for police purposes equally demands that the same freedom of movement be accorded to private cars when used for the purpose of conveying firemen to a fire. The same legislative purpose to facilitate the early arrival of firemen and fire apparatus at the scene of a fire, which finds expression in requirement that other highway travelers shall give them the right of way . . . is apparent in the provision now under consideration. The language of the exemption should be construed in such a way as to further the purposes and policy of the act."

Interpretation of Injury Laws

It is well established that a fireman or other municipal employe who is injured as a result of negligence of another, or failure of the latter to comply with a state law, is entitled to recover damages. However, various Courts have held that when construing a law of this nature all sentences must be interpreted to determine with reasonable certainty the original intention of the framers of the law. If, for instance, when interpreting a state statute it appears that the injury did not result from failure of the person, municipality or company being sued to comply with the law, then the injured employe is not entitled to recover damages.

For example, in H. E. Culbertson Company vs. Warden, 175 N. E. 205, it was shown that a state law provides:

"Section 7472: A person or corporation, or a conductor of a train of railroad cars, or other agent or servant of a railroad company, who obstructs, unnecessarily, a public road or highway authorized by any law of this state, by permitting a railroad car or locomotive to remain upon or across it for longer than five minutes . . . or permits timber, lumber, wood or other obstructions to remain upon or across it to the hindrance or inconvenience of travelers, or a person passing along or upon such road or highway, shall be deemed to have violated this section."

In this case it was disclosed that a municipal employe was seriously injured by a board when the vehicle on which he was riding passed under an overhead railway bridge. It was shown that the injury was caused because a contractor, who was repairing the bridge, had failed to secure the board on the structure.

The employe sued both the railroad company and the contractor for damages and based his suit upon the above mentioned statute.

It is interesting to observe that although the lower Court held the employe entitled to recover damages, the higher Court reversed this verdict and said:

"The trial Court erred in applying section 7472 to this controversy, because it can have no possible relation to a lawful structure temporarily erected in a highway; it being by its terms only applicable to a temporary obstruction to a highway, where a railroad crosses at grade."

How Damages for Injuries are Estimated

Generally speaking, where the negligence of a city official results in an injury to a municipal employe, the latter is entitled to recover an amount of damages to adequately compensate for loss of the income as a consequence of the injury.

For illustration, in Roads vs. Kelleher, 26 S. W. (2d) 764, it was disclosed that an employe was seriously injured when a heavy weight fell upon his foot, requiring the amputation of two-thirds of his left leg below the knee. The injury necessarily confined him to the hospital for a period of five months at least.

The injured employe was a laborer who earned forty cents an hour and worked eight hours a day. The lower Court held the employe entitled to recover $17,500 damages. An appeal was made to the higher Court on the contention that the judgment was excessive. Nevertheless, the higher Court upheld the lower Court's decision, saying:

"We infer from the evidence that he earned about $900 a year. . . . Plaintiff was deprived of the power to labor and to earn a living during the rest of his life through the negligence of defendant. A principal of $15,000, drawing 6 per cent interest, was necessary as the basis for an income of $900 a year. The present value of $15,000, at fifty-two years of age, is about $8,800, and that income plaintiff is held to have lost. . . . Moreover, the crushing of the foot and the operations to save his leg, as well as the amputation, seemingly were agonizing. Under the facts and circumstances of this case, we do not think the verdict was excessive."

Dismissal of Municipal Employe Held Invalid

Another important point of law is that any order issued by a municipal officer is void and ineffective, if its purpose is intended to delegate authority to an official to positively decide whether or not members of the municipal Fire Department may defend their legal rights.

For instance, in State vs. Barry, 175 N. E. 855, it was shown that a properly authorized official issued an order as follows:

"Kindly see that . . . no member of the department will be permitted to demand, request or accept anything of value for settling any civil case in which they are involved, or submit any case to the prosecutor or any attorney for settlement unless they receive permission to do so from this office."

A municipal employe sustained injuries as a result of collision with a motor bus. Without obtaining permission he filed suit against the motor bus company to recover damages for the injury. Soon afterward he was discharged from the department. He filed suit to compel his reinstatement, and at the same time demanded payment of all back salary.

It is interesting to observe that the higher Court held in favor of the municipal employe and stated the following important law:

"However, we do not agree that the rule governed the institution of this action. It was issued in a wise and certainly most commendable effort to eliminate the coercion. . . . It was construed both by the Director of Public Safety and by the Civil Service Commission as forbidding resort to the Courts. If this construction is proper, it makes the order unconstitutional, for it places a superior officer as an intermediary between the Courts and the citizen, deciding whether or not the Court shall receive his suit."

Fighting Fires Which Involve Chemicals

(*Continued from page 928*)

the fire away from the tanks if possible. Where strong fumes are present all firemen exposed should have gas masks and protective covering—rubber garments if available. Firemen should avoid low points in the building as most of the refrigerating gases are heavier than air.

If the cooling system contains more than 100 pounds of refrigerant and it is impossible to ward off the fire, the refrigerant should be discharged either to the open air or into a suitable body of water. Systems containing irritant or flammable refrigerants should be equipped with a diffuser extending above the roofs of buildings within 50 feet; in case of fire the gas can thus be harmlessly discharged into the atmosphere.

Water should be used freely in fighting a fire involving a leaking refrigeration system; spraying will be particularly effective in absorbing ammonia or gas fumes.

(*To be continued*)

Fire Story Written for Young Boys

"Dan, the Young Fireman" is the name of a new book by Paul W. Kearney, who a year ago wrote "Fire" in collaboration with Acting Fire Chief Thomas F. Dougherty, of New York. "Dan, the Young Fireman" is dedicated to Chief Dougherty, to whom the author refers as "one of the last survivors of those epic days of iron men and wooden hydrants."

The story is built around Dan Mason, a Boy Scout who is pressed into service by the police to preserve fire lines at a big fire in lower New York. He is with Mr. Warren, his Scout Master, who is also interested in fire fighting and he tells the boy that he always reads FIRE ENGINEERING.

The book contains reams of fire prevention lessons written in narrative style and devoid of technique. The book is "Dougherty" all the way, but Mr. Kearney scrambles enough romance and adventure with the mixture of fire prevention lessons to make it very interesting. The book would make an ideal Christmas gift for adult or juvenile.

WM. JEROME DALY.

FIRE DEPARTMENT ACTIVITES

Contracts have been awarded in Arcadia, Cal., for the construction of a new fire station.

New Hyde Park, N. Y., will install a Gamewell fire alarm system consisting of twenty-four fire alarm boxes.

A 1,000-gallon Buffalo pumper has been delivered to Bradford, Pa.

Two new fire stations, No. 21 and No. 22, have been officially placed in service in Toledo, Ohio.

A new hose wagon has been purchased by a fire company in Burlington, N. J.

The Council of Port Washington, Wis., has purchased a Seagrave 750-gallon pumper.

Danville, Ill., is considering the advisability of placing the Fire Department under civil service regulations.

Bids have been invited in Bedford, Ind., for the construction of a bungalow type of fire station.

A new fire station is to be erected in the Belvedere Gardens section of Los Angeles, Cal.

A fire station will be erected in Atwater, Ohio, to house new apparatus that will soon be purchased.

Bangor, Me., is expecting the delivering of a new Mack 85-foot aerial ladder.

About the middle of December an aerial ladder will be delivered to the Young America Company in Burlington, N. J.

A special committee has been appointed by the National Association of Commercial Organization Secretaries to encourage fire prevention activities.

A fire in Manila, Philippine Islands, razed one of the largest merchandising houses. The store of Ynchausti & Co., was destroyed at a loss of $1,000,000.

The City Council of Clifton, N. J., appropriated $23,000 for the purchase of two new pieces of fire apparatus, and $60,000 for the construction of a new fire station.

A meeting has been held in Kenhorst, Pa., to consider the formation of a Fire Department. At present the borough is without any fire protection.

Morrisville, N. J., voted to purchase a new city service truck. With this new unit, the town will have five pieces of motor-drive fire apparatus.

Altoona, Pa., has invited bids for the construction of a new fire station on property in South Altoona donated by the Pennsylvania Railroad.

Legislation has been passed by the City Council of Toledo, Ohio, to provide two more captains and two more lieutenants so that the two new fire stations will be properly manned.

A new fire station has been opened for public inspection in Westport, Conn. It is a two-story building provided with a hose-drying tower.

A fire patrol has been organized in Glenville, N. Y. It is probable that the old fire patrol truck of North Tarrytown will be used.

Ligonier, Pa., is working on plans for the purchase of a 600-gallon pumper. Both the borough and the Fire Department will share in the purchase price.

Recommendations have been made to Chief William A. Berger of Fremont, Ohio, by inspectors that the city purchase additional fire apparatus and equipment.

Pumpers from Lewiston and Norway, Me., responded to a call for aid from Welchville, Me., and assisted in checking a fire which threatened to wipe out the town.

Firemen of Boone, Ia., are collecting old toys which are to be repaired by the firemen and then distributed to the poor children of the city.

Members of the Junior Fire Department of Newton, Ia., helped Chief E. H. Gibson make his semi-annual tests of fire hose.

Contracts have been awarded in Indianapolis, Ind., for the construction of two new fire stations. One of the new houses will replace the present No. 8 station.

A barbecue was arranged to celebrate the opening of the new No. 6 station in Houston, Tex. The house was erected at a cost of $10,000 and replaces an old building.

Nineteen volunteer firemen of Phenix City, Ga., resigned from the Fire Department, as protest against the selection of a Fire Chief by the City Commissioners. There are thirty men in the department.

It is expected that the new drill tower being constructed in Dallas, Tex., will be completed by the middle of the month. The tower is six stories high and the contract was let for $6,328.

A movement has been started for purchasing rural fire apparatus to be housed in Nampa, Ida., and for providing two regular firemen, employed by the city, to answer rural calls. It is planned to raise the purchase money by popular subscriptions.

Chief William F. Welch of Lynn, Mass., who was recently appointed Chief of the Department to fill the vacancy caused by the resignation of Chief Edward E. Chase, who retired on a pension, was presented with a handsome gold badge by members of the Fire Department.

Mayor Cermak of Chicago, Ill., said that unless relief is provided by the legislature, the city will be unable to continue the posts of division fire marshals. This statement was made at a dinner of the Fire Department Officers' Union at the Hotel Sherman.

The City Council of Woonsocket, R. I., is considering the purchase of a truck for first aid work. However, no definite action has been taken. All members of the Fire Department have qualified in first aid work and hold Red Cross certificates.

Funds are to be raised in Huntington, Ind., for the purchase of apparatus for the protection of rural property. Subscriptions have been fixed at twenty-five dollars each. Non-subscribers will be called to pay for the service in the event of a fire.

Fire apparatus of Greybull, Wyo., was destroyed by a fire which broke out in the garage where the apparatus was housed. Blocked by flames, the firemen could not enter the garage to remove the apparatus, but they succeeded in getting hose out so that water could be played on the flames.

The Board of Trustees of North Tarrytown, N. Y., has accepted the new Ahrens-Fox fire patrol car for the North Tarrytown Fire Patrol. An order has been placed for a 1,000-gallon Ahrens-Fox pumper equipped with a 100-gallon booster tank. Delivery of this unit is expected some time late in December.

Chicago, Ill., is to erect a new fire station on Belmont Avenue to cost $40,000. On the first floor of the station there will be an apparatus room, a dining room and kitchen and a lounging room. On the second floor there will be quarters for the officers and the men, and locker and shower rooms. The building will be constructed of brick.

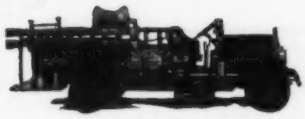
Warren, Pa., has authorized the purchase of a Mack pumper to be delivered in about sixty days. The purchase was authorized at a meeting of the Firemen's Relief Association which has offered to loan the borough $5,000 without interest to help finance the deal. The money will be loaned for five years without interest and if it is unpaid at that time, it will then start to bear interest.

Chief Henry A. Fox of Boston, and Chief Selden R. Allen of Brookline, Mass., were among the list of speakers at the fifty-ninth annual memorial exercises held by the Charlestown Veteran Firemen's Association. District Chief Philip A. Tague was the presiding officer. The exercises are held each year on the anniversary of the Great Boston Fire of November 9, 1872.

As a result of arrests and investigations made by authorities of Indianapolis, Ind., the number of false alarms in the city has decreased. Several boys have been arraigned in court. The investigation followed the death of a Fire Lieutenant who was killed while answering a false alarm. It is believed that a mental defective about twenty years old has been urging the younger boys to turn in the alarms.

As an economy move, $512,450 has been cut from the 1932 budget of the Milwaukee Fire Department. Among items eliminated are $425,000 for a central office and administration building, $20,000 for the completion of a high pressure pipe line on East Bay Street, and $40,000 for a new fire station. The budget committee also refused to allow provisions for eleven new lieutenants and a new rescue squad and a squad car.

WATEROUS



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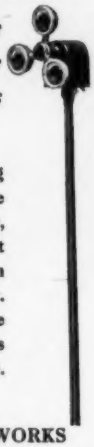

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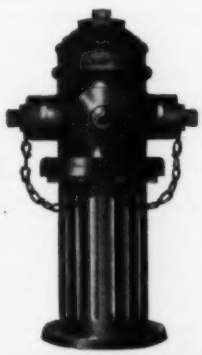

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FALSE ALARMS

—Drawing by "Art Espey

"And believe me, fellers, I thought I could stand smoke."

Another way to break in your new shoes is to ride in the subway with them.

GOOD TALENT

For years she has been practicing singing, and was encouraged by her friends. She came to a big metropolis for greater opportunities. An audition was arranged with one of the better known concert singers.

"Do you think I will ever be able to do anything with my voice?" she asked after her test.

"It might come in handy in case of a fire," he answered.

The moth surely has a tough time. In the summer he lives in an overcoat and in the winter he lives in a bathing suit.

TRAILER DAMAGE

For sake of company, the boys at Station 6 adopted a huge, gawky dog of unknown breed that happened to sneak into the house. The boys would play with him in order to help the moments pass. The dog soon commenced to believe that all persons were anxious to play with him.

One day an old codger was crossing the street near the station when the dog bounded out and bowled him over. The next instant an Austin skidded around the corner and bumped the man, inflicting more severe bruises. Bystanders assisted the man to his feet, and some one asked if the dog had hurt him.

"Not exactly," replied the old codger, "it was the tin can tied to his tail that did the most damage."

Now is the time to give her nothing but love.

DIRT CHEAP

Up at the training school where a street cleaning foreman was showing a class of would-be street-sweepers, what to do and what not to do, there were some who could not follow his instructions.

It was the instructor's ambition to see every one appointed. He said:

"Every man here could get a job with the city, if he wanted it."

And a wit remarked, "Isn't that rather a sweeping statement?"

"Gee, dear, with a moon like that there are only two things to do—and I don't feel like writing any poetry."

A TOUGH FIGHT

According to the *Times Star* of Bridgeport, Conn.: "Firemen had a stiff bottle before the fire was finally under control."

Oh, the hooker and ladder!

"Well as I live and breed," said the rabbit.

DOING VERY WELL

The Exempt Volunteer Firemen's Association held their meetings at the fire hall, through the courtesy of the active firemen. The old smoke-eaters who grew up together welcomed their regular meetings to talk things over—fires, business and their families.

"My daughter is having her voice cultivated," said one of the old timers.

"Is it improving?"

"It's growing stronger, and that's what I don't like. Now when she practices and there's a fire, I can't hear the whistle."

SHE TRIED

Out in the suburbs, there was a fire station within walking distance of a home where there was a most attractive maid. One of the men was suspected of sneaking off to that home very often, and the maid, too, was suspected of doing things.

"Evelyn, you were entertaining a man in the kitchen last night, were you not?" questioned the suspicious mistress.

"That's not for me to say, ma'am, but I did my best."

It's funny how many folks complain o' bein' poor and how few o' bein' foolish.

THAT'S GOOD

In the residential section of a Southern city, there was an old negro who would stop to talk each time he went by the fire station. In order to hasten his departure, it was customary for the men to give brief answers or not to answer him at all. One sunny morning he paused at the station, as usual, and the desk man asked:

"Sam, where have you been?"

"No place—just married."

"Thas good."

"Not so good. I'se stepdad to nine kids."

"Thas bad."

"Not so bad. She's got plenty of money."

"Thas good."

"Not so good. Holds on it tight."

"Thas bad."

"Not so bad. Owns a big house."

"Thas good."

"Not so good—it burnt down last night."

"Thas bad."

"Tain't so bad. She burned with it."

"Thas good."

"Yes, thas good."

A certain Scotchman bought four rubber erasers and used them as snubbers on his Austin.

When a bride enters a church she thinks: "Aisle Altar Hymn."

—Drawing by "Art Espey

With intensive summer drilling at end, firemen are turning to less strenuous indoor exercises to keep fit.

YOUR CATALOG PAGE

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12-9

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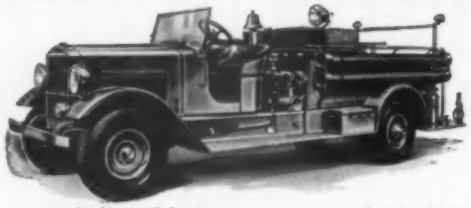

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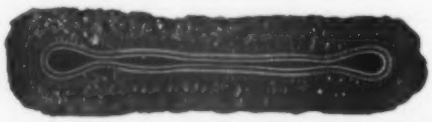

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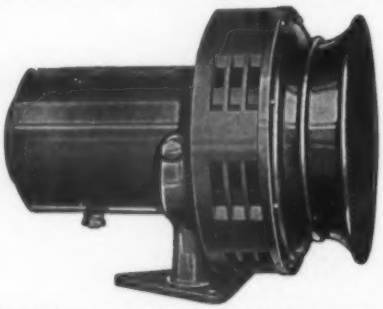

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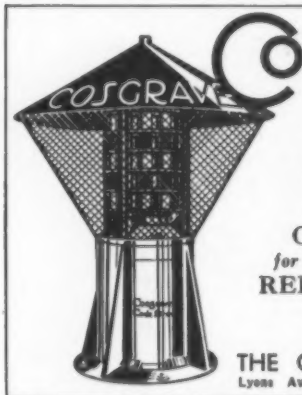

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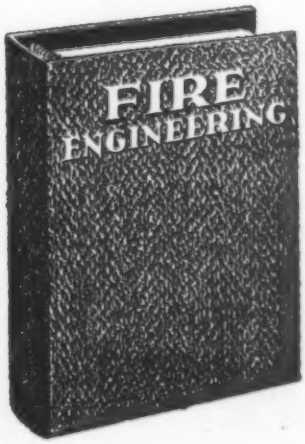

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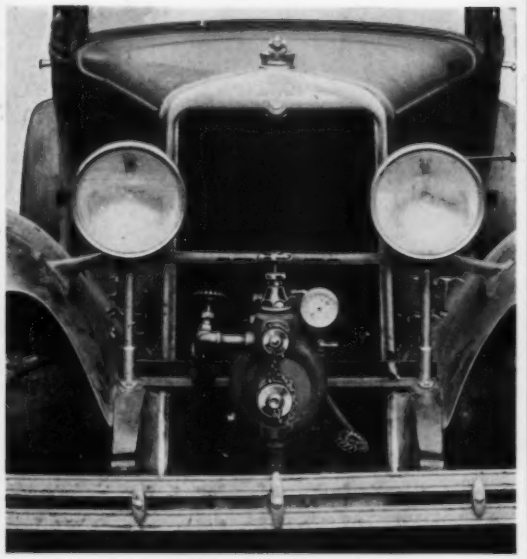

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